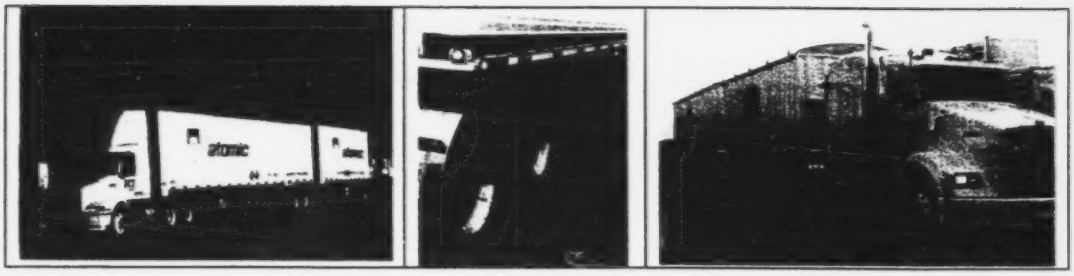

FINAL STUDY REPORT

ECONOMIC IMPACT OF THE SPECIAL HAUL PROGRAMS

PREPARED FOR

Saskatchewan Highways and Transportation

TRANSPORTATION POLICY BRANCH

by

Trimac Logistics Ltd.
Consulting Services

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EXECUTIVE SUMMARY

The Transportation Policy Branch of Saskatchewan Highways and Transportation is reviewing the province's special hauling programs to better understand the economic and safety impacts on the province, by undertaking two related consulting studies. This document represents the final study report of Trimac Logistics Ltd. (formerly Trimac Consulting Services) concerning the economic impacts for users as well as for the provincial economy in general. The safety topic was undertaken by another consultant.

Methodology

To undertake the economic review, our approach was to begin by securing information to "profile" the nature and extent of the special hauling programs. This was undertaken through consultation with Saskatchewan Highways and Transportation officials, review of literature in Trimac's library concerning the programs (eg. industry publications, prior consulting assignments, etc.), an internet search of documents, and direct contact with various shipper / carriers involved in the program. The key information sought in these investigations was to understand the configurations and loads for "normal transportation" of products as well as the specially permitted configurations. We also needed to quantify the tonnages moved and origin-destination movement patterns.

Applying Trimac's Motor Carrier Fleet Systems Analysis, computer model to the foregoing logistics patterns, we then developed estimates of operational cost and fuel useage to undertake the special hauls and compared these with (similarly estimated) "normal trucking". The foregoing estimation procedure enabled us to estimate direct (industry user) benefits in the form of likely transportation savings as well as to quantify savings in fuel (a surrogate for savings in greenhouse gas emissions) associated with the programs, identify numbers of vehicles involved and driver employee headcounts (job impacts). To assess some of the indirect impacts, we compiled tabulations of statistics concerning the respective user industries (employment and revenue statistics) as well as suppliers who are likely to benefit from the transportation / user industry activity.

Results

Direct user benefits (trucking savings) amount to an annual saving of roughly $60 million for truck transportation costs using the special configurations. These savings amount to approximately 35% of freight costs for the user sectors that have benefited from the program (potash, refined petroleum distributors, uranium developments, grain hauling, retail freight users of EEMV's and the forestry sector).

Contacted users have stressed how important these levels of transportation savings are to their historic and continued viability.

Excluding consideration of the agricultural sector (current agricultural applications such as grain hauling and potato hauling amount to only a handful of vehicles involved in the program), the annual sales of the direct user industries amount to roughly $7 Billion and they employ 31,750 direct employees. This represents approximately 24.5% of

Saskatchewan's RDP (Real Domestic Product) and approximately 6.6% of Saskatchewan jobs.

The generated "special haul" trucking represents the activity equivalent of over 452 annual truck equivalents, and approximately 1000 drivers, many of which are located in smaller communities throughout the province of Saskatchewan. Beyond the direct wage impact associated with this employment, the expenditures for consumables by trucking firms to undertake the special hauling amount to roughly $50 million, as follows:

- Replacement power units: $11.4 million per year
- Replacement trailer sets: $ 5.2 million per year
- Fuel purchases: $18.2 million per year
- Repairs / maintenance: $10.4 million per year
- Tires $ 4.3 million per year

These expenditures have contributed to the business viability of numerous support businesses in Saskatchewan communities. Reviewing some of the affected firms, by reference to the Industry Canada Strategis database, identifies that the businesses that have benefited from these programs represent annual sales in excess of $90 Million to $150 Million and employment levels in excess of 1200 people.

Because our "search" technique was not exhaustive, Trimac expects that the indirect benefits, charted by us, for the special programs is very conservative.

Conclusions

The programs have been an instrumental and significant economic stimulus to the province of Saskatchewan, especially to the user industries and to their suppliers. Beyond their importance to the province of Saskatchewan as a whole, the location of many of the industries in smaller communities, and involving First Nations (eg. the Northern Uranium and Forestry related activity) partnerships, means that the special hauling programs have contributed significantly to the diversification of the provincial economy and the broadening of economic participation in these opportunities, generally.

1. INTRODUCTION

Saskatchewan Highways and Transportation (SHT), Transportation Policy Branch (TPB), is reviewing the province's Special Haul Trucking Programs. For this purpose, in the year 2000, two companion consulting studies are underway:

- Review of the Economic Impacts of the Special Haul Programs
- Review of Accident Statistics for Special Haul Programs

This document is the study report of Trimac Logistics Ltd. (formerly Trimac Consulting Services), concerning the program economic impacts. This project is tasked to identify and quantify benefits of the special haul programs for industry, for the Department and the provincial economy in general.

1.1. Historical Context

Historically, the Special Haul Programs were set up in a policy framework that included commitment to two economic objectives:

- provide an economic benefit to the trucking industry (or users) and a contribution to the over-all economic well being of the province.
- provide for cost recovery such that Saskatchewan taxpayers incur no additional infrastructure costs as a result of the programs.

These economic objectives were to be achieved within a program that also was geared to not adversely compromise road safety and, in-fact, to seek to promote improvements. Initially, the programs were assessed using traditional pavement management techniques to consider infrastructure costs and haul costs were developed from technical principles applied to tonnage estimates, axle weights and configuration operating costs. SHT has maintained, over the years, a relatively extensive database of vehicle operating cost information to use for developing reliable estimates of the potential benefits from the program. However, "logging" measurements of actual economic impacts, in comparison to projections, has not been rigorously, or continuously undertaken.

The Need to Broaden the Evaluation to Quantify Indirect Economic Impacts

Beyond the direct truck operational savings and infrastructure costs, it is further recognized that the trucking programs have broader indirect impacts on regional economic development in the province of Saskatchewan. These indirect impacts are more difficult to quantify accurately – yet they are an important consideration for assessing the economic implications of the special haul programs.

1.2. Project Scope

In this project, the consultant is tasked with reviewing the Special Haul Programs in the context of an analytical framework that:

- Identifies and quantifies the extent of the Special Haul Programs, as historically and currently implemented by industry.
- Objectively assesses the direct economic cost and savings impacts for shippers and carriers, stemming from these implementations.
- Develops impact assessments on the economic development of Saskatchewan including job creation, revenue generation (growth of Real Domestic Product for the Saskatchewan Economy) for the user industries as well as for supporting industries.

2. UNDERSTANDING THE SPECIAL HAUL PROGRAMS

2.1. The Context

Figure 1: Map of Saskatchewan (In A North American Context)

The Province of Saskatchewan is a geographically large, sparsely settled, landlocked region that is virtually in the centre of the North American continent. The economy is significantly linked to agriculture, forestry, petroleum and the production of minerals –

of which are associated with production of large volumes of bulk products and the consumption of significant consumables in the form of refined petroleum products (energy and lubricants) and other supply materials (eg. bulk cement, fertilizers and other chemicals).

As seen in Figure 1, overland surface trade distances for Saskatchewan (and other Western Canadian) industries are measured in hundreds of miles. Consequently, the ability to supply inbound consumable materials and move products to market depends significantly on having access to efficient methods of surface freight transportation.

Historically, the southern areas of the province were settled and developed with significant emphasis on agricultural production – initially facilitated by an extensive network of railway lines. This network transports significant volumes of grain, potash, lumber and other products for export through West Coast ports, Thunder Bay, Churchill and U.S. gateways.

In turn, a grid road system was put into place, which evolved, over a period of many years, to a Provincial Highway network that consists of provincial and local routes accessing all areas of the province, including locations in the northern parts of the province that have no rail infrastructure available for access.

2.2. Normal Provincial Highway Weights

Saskatchewan's highway network is currently classified according to load bearing capabilities of the routes, as tabulated in Table 1:

Table 1: Main Categories of Provincial Highway (Based on Normal Weights)

Highway Link Category	Description	Maximum Gross Weight
Primary Highways	Allowed Primary Highway Weights All Year Round	62,500 kg on an 8 axle configuration
10 Month Primary Highways	Allowed Primary Highway Weights Approximately 10 Months per year; Reverts to Secondary Weights in May and June when highways are in their weakest condition.	62,500 kg on an 8 axle configuration (10 months per year); 54,500 kg on an 8 axle configuration (May, June)
Secondary Highway and Municipal Roads	Allowed Secondary Highway Weights except as permitted "Winter Weights" for three months from December 1 through the last day of February 1	54,500 kg on an 8 axle configuration all year round.

Source: Routing and Product Service Guide (Saskatchewan Trucking Association)

In addition to the foregoing three categories of route, there are additional routes that are subject to bridge limited gross vehicle weights, routes that are not allowed "winter weights" and routes with year round restricted weights (in this case limiting GVW to

41,500 kg.). Following Figure 2 illustrates the three principal categories of route listed in Table 1 on the preceding page.

Figure 2: Illustration of "Normal" Provincial Highway Weights in Saskatchewan

Figure 3, on page 7, illustrates the normally permitted total gross weights and axle load distributions for trucks operating on the network in the form of a Gross Weight Chart.

Considering momentarily the maximum standard legal highway configuration, the 8 axle B train, we see from Figures 2 and 3 that:

- The green (Primary Highway) network permits GVW up to 62,500 kg.
- The red (10 Month Primary) network permits GVW up to 62,500 kg, except in May and June, when the limit is 54,500 kg.
- The blue (Secondary) network permits maximum GVW up to 54,500 kg. all year round.

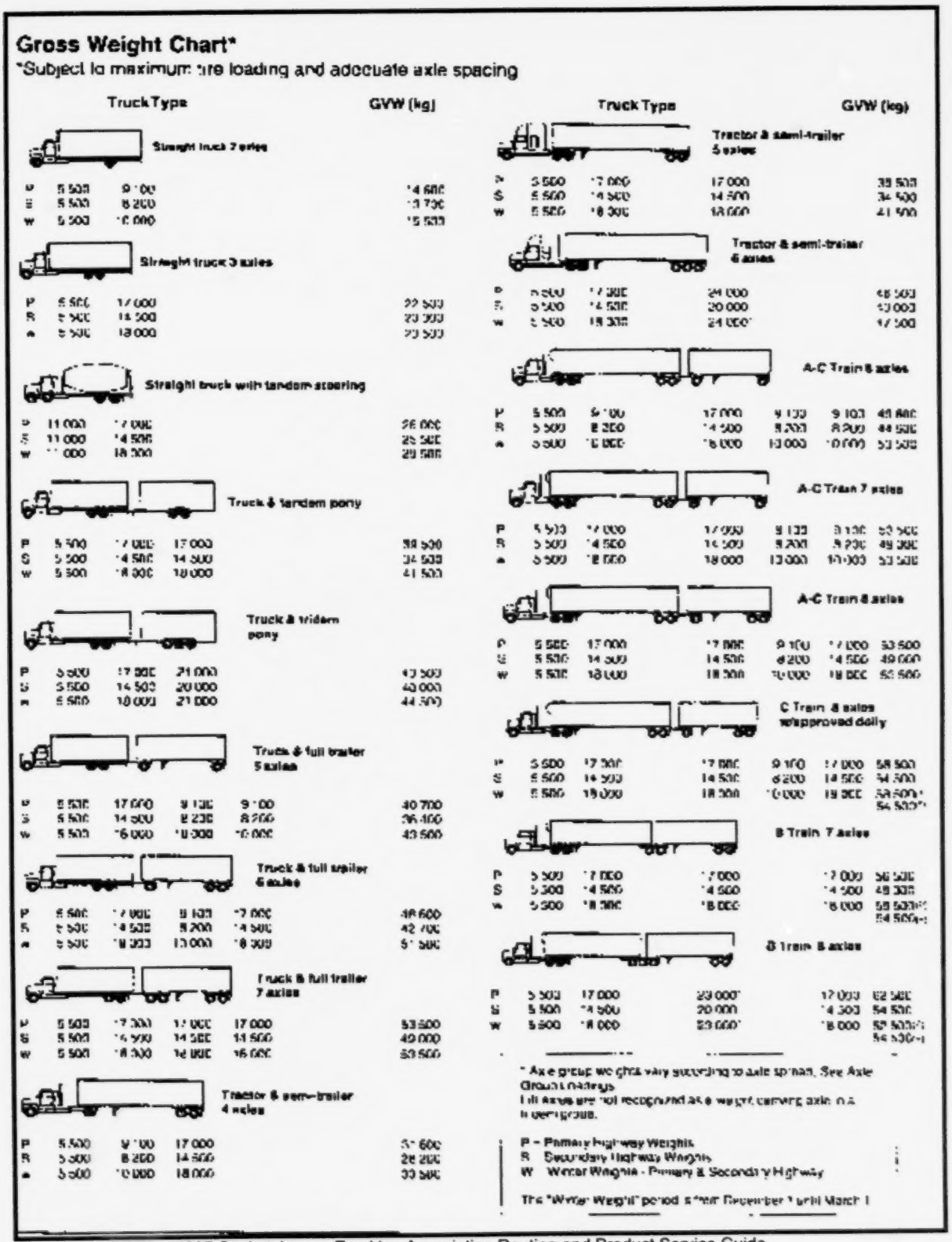
In terms of over-all vehicle length, Saskatchewan normally restricts vehicles to not exceed the following maximum lengths:

Table 2: Standard Configuration Lengths

Configuration	Normal Maximum Length
Truck, or single vehicle	12.5 meters (41 feet)
Tractor and Semi – trailer	23 meters (75 feet 5 inches)
Tractor and Two Trailers (A, B, C Train)	25 meters (82 feet)

Source: Routing and Product Service Guide (Saskatchewan Trucking Association)

The purpose of the foregoing weight and dimension limits is to enhance the safety of the traveling public, manage the wear (due to loads) on road surfaces, and provide for a degree of "standardization" of weights and dimensions for highway vehicles within Canada. Note that the weight limits for primary highways were agreed in 1987 – 1988 as a result of extensive engineering studies under the auspices of the Transportation Association of Canada (TAC, at that time known as RTAC, the Roads and Transportation Association of Canada).


Gross Weight Chart*
*Subject to maximum tire loading and adequate axle spacing
Truck Type
GVW (kg)
Straight truck 2 axles
Straight truck 3 axles
Straight truck with tandem steering
Truck & tandem pony
Truck & tridem pony
Truck & full trailer 5 axles
Truck & full trailer 6 axles
Truck & full trailer 7 axles
Tractor & semi-trailer 4 axles
Tractor & semi-trailer 5 axles
Tractor & semi-trailer 6 axles
A-C Train 6 axles
A-C Train 7 axles
A-C Train 8 axles
C Train 8 axles w/approved dolly
B Train 7 axles
B Train 8 axles
* Axle group weights vary according to axle spread. See Axle Group Loadings
Tri Axles are not recognized as a weight carrying axle on A tri-axle group.
P – Primary Highway Weights
S Secondary Highway Weights
W Winter Weights - Primary & Secondary Highway
The "Winter Weight" period is from December 1 until March 1

Source: 1997 Saskatchewan Trucking Association Routing and Product Service Guide

Figure 3: Standard Weights and Dimensions For Saskatchewan

2.3. The Saskatchewan Special Hauling Programs

Beginning in the early 1970's, Saskatchewan Highways and Transportation has introduced innovative special hauling programs that have relaxed the normal envelope of size and weight restrictions, as outlined previously in section 2.2. Underlying these special programs are the following factors:

- "Normal" trucking weights and dimensions have been devised to reflect the normal mix of traffic, road design standards and trucking operational characteristics that are in general practice – they are not "absolute standards" that cannot be exceeded.
- Larger cubic capacity and / or weight carrying capability trucks can provide significant economic savings to users, a factor which is of significant interest for Saskatchewan resource and retail industries, due to geographic factors previously outlined.
- The most important public interest consideration, where the "normal" size and weight envelope for trucks is extended, is safety. Increased safety of the larger vehicle combinations is sought through regulatory management in the context of a special permit program. In comparison to vehicles that meet normal "legal restrictions", the program requires additional special engineering design (stability analysis, etc.) for equipment used, additional training and experience of drivers, specialized maintenance inspections, etc. and the restriction of routes / hours of operation.
- A significant safety consideration, for longer vehicle configurations (i.e. higher cubic capacity), is the ability of the motoring public to "overtake and pass" a vehicle. On four lane highways, and on selected (lower traffic density) sections of two lane highway, provided the vehicle is operated in a professional manner and is not under powered (affecting gradeability – slowing down on hills), longer than "normal" vehicles can be operated, which would otherwise not be permitted on more heavily traveled routes.
- For heavier configurations, route bridge strengths and load bearing capability can be engineered in comparison to axle load configurations, on an "individual case" basis – with possible "upgrades" to heavier configurations traded off with financial contributions / levy's to cover increased road infrastructure costs. In addition, use of mitigative measures (such as lower speeds and tire pressures) will also minimize infrastructure damage (facilitated by CTI, Central Tire Inflation technology, to be discussed later).

Working in context of the foregoing factors, Saskatchewan Highways and Transportation has developed special hauling programs, for qualified truck operators, that go significantly beyond the "normal" legally permitted weights and dimensions as outlined in Section 2.2.

These programs have evolved, over time, into three specific areas, as follows:

Bulk Haul Program
The bulk haul program, allows vehicles to exceed standard axle weights on specific routes. For example qualifying vehicles may operate at primary road system weights on the secondary road system. The permit holder pays for any incremental costs required for the haul such as bridge upgrades. All of the truck haul savings beyond incremental costs flow to the transporter. Proposed vehicles are analyzed to determine their stability characteristics in terms of engineering measures and must meet or exceed certain performance criteria.

Timber Program
The timber program allows vehicles to exceed standard axle weight, vehicle length and vehicle width dimensions. Efficient transportation in the forest sector is essential to the economic viability of smaller wood sizes as found in northern Saskatchewan. The general reduction in available wood fiber experienced in some other provinces and the acceptance of new techniques such as finger jointing, have made the Saskatchewan forests particularly attractive. This has the potential to significantly increase the size of the timber haul. All of the truck haul savings beyond incremental costs flow to the transporter. Proposed vehicles are analyzed to determine their stability characteristics in terms of engineering measures and must meet or exceed certain performance criteria.

Energy Efficient Motor Vehicle Program (EEMV)
This program allows extended length vehicles to operate on selected roads. On divided four lane roads the maximum vehicle length is 38 meters while on two lane undivided roads the maximum vehicle length is 31 meters. The vehicles are assembled using the standard trailer lengths of 28, 30, 45, 48 and 53 feet.

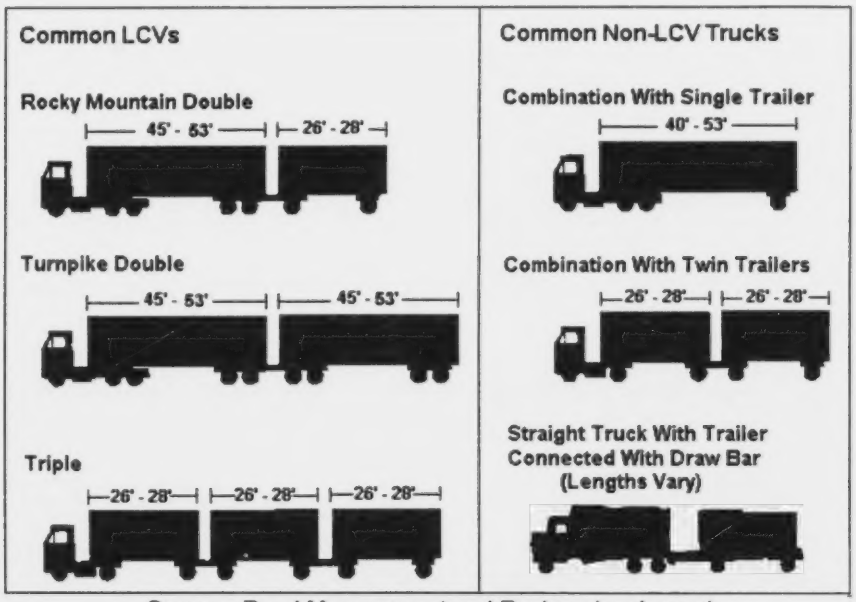
EEMV vehicle units are generally van configurations (with some flat decks and tank trucks) and are of particular interest to the wholesale / retail goods sectors including the food industry. Note that Saskatchewan is not the only jurisdiction that operates such units – in fact they are in common use in the adjoining Canadian jurisdictions of Alberta and Manitoba – especially on "through routes" such as the Yellowhead and Trans Canada Highway corridors.

The EEMV configurations include, Rocky Mountain Doubles, Turnpike Doubles, and Triples, described as follows:

- Rocky Mountain Double. A combination vehicle consisting of a tractor, a 40 to 53 foot semitrailer, and a shorter 24-28-foot semi-trailer, which total length does not exceed 31 meters (101.7 feet).
- Turnpike Double. A Turnpike Double is a tractor plus double trailers which are between 12.2 m (40 feet) and 16.2 m (53 feet) long (each). Total length does not exceed 38 meters.
- Triple Trailer. A Triple Trailer Combination consists of a tractor with three trailers of approximately the same length. The typical trailer

length is approximately 7.3 and 8.5 meters (24-28 feet). Over all configuration length does not exceed 38 meters.

The configurations may be coupled as "A", "B" or "C" type configurations. Saskatchewan is the only jurisdiction that requires triples to be configured as "C"-trains, which has been shown to add significantly to the safety performance of triples. Following Figure 4 illustrates these configurations in comparison to standard truck configurations. Note that in some jurisdictions, EEMV's are also referred to as LCV's (Long Combination Vehicles).



Source: Road Management and Engineering Journal

Figure 4: Illustration of Common EEMV Configurations and Standard Configurations

Toward "Partnership" With Industry

In recent years, Saskatchewan Highways and Transportation have tended to orient their approach to the Special Programs, described above, in context of a "partnership" with industry. Many of the recent special hauling permits that allow vehicles to operate over-length, over-width and beyond standard weights, have been set up in this context.

In what is described as a "Partnership Program" the net truck haul savings are split between the province and the permit holder and the provincial portion is reinvested in the infrastructure of the particular haul. This ensures that only vehicles that can prove efficiency benefits are considered and it also injects accountability into the process. As with the other programs, proposed vehicles are analyzed to determine their stability characteristics in terms of engineering measures and must meet or exceed certain performance criteria.

3. HISTORICAL DEVELOPMENT OF SPECIAL HAULING

In order to understand the development of special hauling trucking programs in Saskatchewan, one must begin with an understanding of the development of Saskatchewan's potash industry during the 1950's, 1960's and 1970's.

Currently, the annual productive capacity of the Saskatchewan potash industry is 15.7 million tonnes of product, equivalent to 9.6 million tonnes K2O. The province is the largest potash producer in the world and accounts for about 25 per cent of world potash production. In recent years, annual sales for Saskatchewan potash have totaled some $1 billion per year.

Saskatchewan's rich potash deposits were discovered through 1940's petroleum exploration drilling. The potash is found in the Prairie Formation, which lies at depths greater than 1000 meters beneath much of southern Saskatchewan. The potash reserves in Saskatchewan are massive. By conservative estimates, Saskatchewan could supply world demand at current levels for several hundred years.

Transportation

Since about 95 per cent of the potash produced in Saskatchewan is exported, this represents a substantial volume of material, and the cost of transporting it is a major component of the ultimate market price. About 55 per cent of Saskatchewan production is shipped to the United States, mostly to the northern part of the U.S. Midwest. Another 40 per cent or so is shipped to countries around the world mainly through the port of Vancouver.

- To customers in the American mid-west, transportation represents up to 50 per cent of the cost of the Canadian potash they buy.
- Transportation accounts for one third of the price of Saskatchewan potash at Vancouver; to this must be added the further cost of overseas shipment.

In this context, access to affordable and efficient transportation services was, and continues to be, a key element in the viability of this Saskatchewan industry.

Development

The first attempt to mine potash in Saskatchewan started in 1951. The effort was unsuccessful because of flooding, and the mine was finally abandoned in 1960. A mine near Saskatoon, opened by the Potash Company of America, began production in 1958 but was closed a year later because of flooding. After extensive modifications to the mine, production was resumed in 1965.

The Esterhazy Project

The largest potash mine in Saskatchewan, operated by the International Minerals & Chemical Corporation (IMC), was begun at Esterhazy, Saskatchewan in 1957. It has been in continuous operation since production started in 1962.

The IMC project was a pioneering effort that found an innovative method to solve the water flooding problems that had thwarted previous attempts at development of potash mines in Saskatchewan. As was reported in newspaper accounts in 1961:

> *Esterhazy - A complex potash mining venture which to date has cost more than $20,000,000 was a major step nearer to production Saturday when Premier T.C. Douglas rode a miner's cage 1,500 feet down into the earth to turn a bolt signifying a mining company's victory in taming a nightmarish, water-laden geological stratum.*
> *It was the last of 17,000 such heavy steel bolts used by workers in International Minerals and Chemical Corporation (Canada) Ltd., in securing a 3,000-ton cast iron mine shaft lining which walls off the 200-foot Blairmore, a capricious geological sand and clay layer which for more than two years thwarted some of the best brains in North America at a cost of millions of dollars. In some areas of Western Canada, coal and oil is found in the Blairmore. But at Esterhazy, as at Saskatoon, it carries water at extremely high pressure. The Blairmore can absorb water sealing cement by the carload and still pour water forth like a burst dam - said one engineer, "it seems you'd have to pump enough concrete into the Blairmore to make a cement basement for all Saskatchewan before you can stop that water." Using a method unique in this hemisphere but well-known in Europe, mining engineers finally sealed off the Blairmore with the heavy cast-iron liner and took the shaft to the 1,488-foot level. To do the job they had to spend a year freezing the Blairmore to minus 50 degrees Fahrenheit - a temperature lower than any achieved before in a North American mine. This involved sinking 58 freeze pipes, each 250 feet long, in a circle around the shaft and installing a refrigerating unit capable of making ice for three Maple Leaf Gardens.*
>
> **Source: "Big Esterhazy Mine Closer To Production", *Saskatoon Star Phoenix,* March 27, 1961. p.14, By Jack Denhoff**

A second shaft, about 10 km away, was completed by IMC in 1967; the two mines are connected underground. They have a combined production capacity of 4.2 million tons of potash a year - still the largest potash mine in the world.

In locations other than Esterhazy, another mining operation went into production in 1964, and three more started up in 1968. By 1974, 10 potash mines were operating in Saskatchewan with a total annual production capacity of nearly 13 million tonnes of potassium chloride. The industry's capital investment is over $2.5 billion; replacement value would be significantly more.

3.1. Potash Hauling at Esterhazy (IMC)

In addition to pioneering a method to alleviate flooding concerns that had previously thwarted mine start up, the IMC potash development at Esterhazy soon pioneered some innovative transportation methods that gave birth to Saskatchewan Highways and Transportation's first Special Trucking Program.

As noted previously, a significant component of the delivered price for potash to U.S. markets is represented by the transportation costs. With expansion of the Esterhazy production facilities in the late 1960's, IMC was engaged in difficult negotiations with the

the Canadian railroads, CN Rail and Canadian Pacific Railway, to secure satisfactory transportation rates to U.S. market destinations.

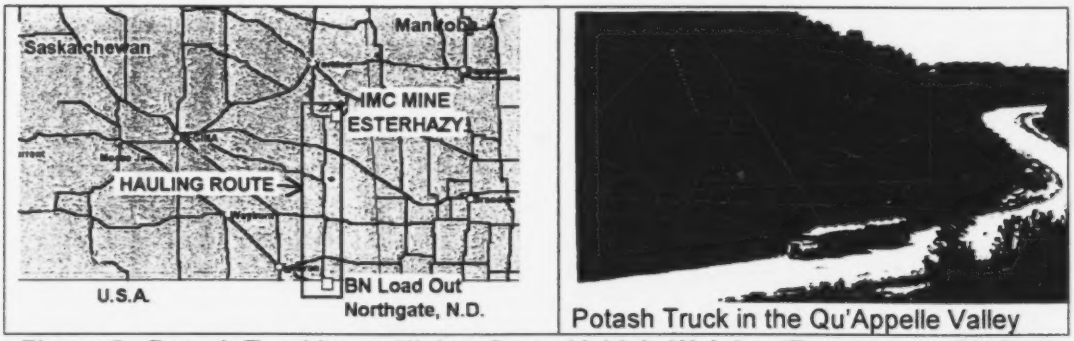


Figure 5: Potash Trucking at Higher Gross Vehicle Weights (Esterhazy to BN Rail)

Dissatisfied with the price / operational options being provided by those companies, IMC recognized that they were located very close to the Burlington Northern Railroad in North Dakota. Burlington Northern was aggressively seeking to serve Canadian customers, and had recently unsuccessfully applied for access rights to construct lines into various Western Canadian locations and compete with the two major Canadian railways.

With co-operation of the Saskatchewan government and U.S. Customs, IMC, Kleyson Transport (a Winnipeg headquartered trucking company) and the Burlington Northern Railroad, put together a "trucking solution" to the competitive access question.

As illustrated in Figure 5, the intermodal hauling solution involved trucking potash from Esterhazy, via highways 80, 22 and 9 for a distance of 144 miles, to Northgate, North Dakota. Under this arrangement, Kleyson set up a trucking operation based in Esterhazy and built and operated a truck to rail loading facility at Northgate. Because Northgate is not the principal Canada-U.S. border crossing facility (which is at Portal, N.D., 10 miles west), the shipper / trucker incurred costs for having U.S. customs operate the border crossing facility on a 24 hour per day, 7 day per week basis.

In the early 1970's the Saskatchewan government agreed to permit hauling on the Esterhazy to Northgate route at higher than normal gross vehicle weights, on a special permit basis. The system was made possible because of the relatively low traffic density on this two lane highway route as well as through the creation of a "road cost share partnership" between the shipper and the provincial government. Under a special agreement, the shipper paid the province a special user fee, on the basis of tonnage shipped via the route, which was referred to as an "asphalt fee". The fee was designed to cover extra costs for pavement wear from operating the very high vehicle weights on the route. The result of this agreement was a highly productive intermodal truck to rail operation – which was international in scope – and was "precedent setting" for the province of Saskatchewan.

Operationally, the Esterhazy project was a successful project that set the stage for the Saskatchewan government to undertake breakthrough research, in cooperation with the trucking industry, to increase gross vehicle weights for hauls and address the

trucking industry, to increase gross vehicle weights for hauls and address the various operational, safety, and infrastructure related issues that would be encountered with new trucking configurations and higher vehicular, and axle, loads.

The haul became an ideal "laboratory" for testing new trucking concepts, principally because of the following route haul characteristics:

- Tonnage movements on the route were significant, representing approximately 1 million tons per year of hauling – making the measurement of pavement impacts and other safety issues, statistically significant.
- The route was of relatively low traffic density, minimizing concerns about conflicts between the trucking operations and other road users giving rise to concerns about safety incidents and situations.
- Although the route was primarily level, which facilitated good speeds over most of the route, a short section of the route crosses the Qu'Appelle River Valley – giving rise to a short section of 5% road gradient (about 2 miles) on each side of the valley. Entering the valley in the loaded direction from the north, the trucks would be required to operate safely in the "loaded downhill" direction. To leave the valley, it was then necessary to haul the loads up a long adverse grade. This required engineers and highway planners to assure that vehicle braking systems and horsepower / gear ratio's (to facilitate "gradeability") were adequate for the additional gross vehicle weights being operated and also that the haul could be undertaken safely in all weather conditions.
- Innovative highway engineering / pavement management schedules were undertaken. In some instances, road sections were resurfaced only on the southbound (loaded) lanes that were sustaining most of the pavement wear, while trucks returned empty on the northbound side of the highway.

For the reasons outlined, as well as for being the "first" special haul, the Esterhazy potash haul, had an importance for Saskatchewan which extended beyond the direct "trucking savings" that were realized through use of higher GVW trucking configurations.

Impact on Rail Rates For Saskatchewan Shippers

Trimac visited with IMC's transportation management in Esterhazy in May 1985 in the role of a sub-consultant to Delcan on the joint Transport Canada / Saskatchewan Highways and Transportation, "Bulk Commodity Study". At that time, the mine shipped approximately 4.2 million tons per year. The consultant was advised by IMC that the Kleyson trucking haul represented approximately 1/3 of the project tonnage, or roughly 1.25 million tons per year. The remainder of the hauling was being undertaken by CP Rail and Canadian National, who each also moved approximately 1.5 million tons.

The shipper advised Trimac that the two Canadian railways had become more operationally efficient and innovative in their pricing of transportation than had been the case in the early 1970's, when the Kleyson haul had been set up. The consultant was advised that, in fact, the two Canadian railways were "matching" the combined Kleyson

– Burlington Northern rate structure to deliver potash to the U.S. markets. In essence, we were told that the principal significance of the Kleysen Special Haul was that it had caused the Canadian railroads to "take notice" of the Saskatchewan potash producers in designing service and setting prices.

In this way, the Special Hauling Project had provided direct cost savings, for the tonnages transported by truck, but had also resulted in similar rail freight rate savings for even more significant tonnages, over the years, for that company.

While it is likely that this rail freight "differential" would not apply to potash developments that were located further north than Esterhazy, the consultant is aware that the nearby Rocanville Potash development (PCS) did consider trucking product, in the late 1970's, until more attractive rail terms were offered to that company.

3.2. Esterhazy Potash Trucking History

History of the IMC Potash Haul (Special Haul Program)
Esterhazy to Northgate ND: 1974 to 1998

		The "Special Haul"				Comparable "Legal" Loads			
Year	Estimated Tons*	Type of Units Used	GVW (lbs)	Tare (lbs)	Payload (tons)*	Max. Legal Configuration	Legal GVW (lbs)	Tare (lbs)	Payload (tons)*
1974	750,000	9 Axle B	138,000	38,000	50	7 Axle A or B	110,000	34,000	38
1975	750,000	9 Axle B	138,000	38,000	50	7 Axle A or B	110,000	34,000	38
1976	750,000	9 Axle B	138,000	38,000	50	7 Axle A or B	110,000	34,000	38
1977	1,000,000	9 Axle B	138,000	38,000	50	7 Axle A or B	110,000	34,000	38
1978	1,000,000	9 Axle B	138,000	38,000	50	7 Axle A or B	110,000	34,000	38
1979	1,000,000	9 Axle B	138,000	38,000	50	7 Axle A or B	110,000	34,000	38
1980	1,000,000	9 Axle B	138,000	38,000	50	7 Axle A or B	110,000	34,000	38
1981	1,250,000	9 Axle B	138,000	38,000	50	7 Axle A or B	110,000	34,000	38
1982	1,250,000	9 Axle B	138,000	38,000	50	7 Axle A or B	110,000	34,000	38
1983	1,250,000	9 Axle B	138,000	38,000	50	7 Axle A or B	110,000	34,000	38
1984	1,250,000	9 Axle B	143,500	40,500	51.5	7 Axle A or B	110,000	34,000	38
1985	1,250,000	9 Axle B	143,500	40,500	51.5	7 Axle A or B	110,000	34,000	38
1986	1,250,000	9 Axle B	143,500	40,500	51.5	7 Axle A or B	110,000	34,000	38
1987	750,000	9 Axle B	143,500	40,500	51.5	7 Axle A or B	110,000	34,000	38
1988	750,000	9/10 Axle**	161,000	43,500	58.75	8 Axle Super B	137,850	38,000	50
1989	750,000	9/10 Axle**	161,000	43,500	58.75	8 Axle Super B	137,850	38,000	50
1990	750,000	9/10 Axle**	161,000	43,500	58.75	8 Axle Super B	137,850	38,000	50
1991	750,000	9/10 Axle**	161,000	43,500	58.75	8 Axle Super B	137,850	38,000	50
1992	750,000	9/10 Axle**	161,000	43,500	58.75	8 Axle Super B	137,850	38,000	50
1993	750,000	10/Axle	198,000	51,000	73.5	8 Axle Super B	137,850	38,000	50
1994	750,000	10/Axle	198,000	51,000	73.5	8 Axle Super B	137,850	38,000	50
1995	750,000	10/Axle	198,000	51,000	73.5	8 Axle Super B	137,850	38,000	50
1996	750,000	10/Axle	198,000	51,000	73.5	8 Axle Super B	137,850	38,000	50
1997	750,000	10/Axle	198,000	51,000	73.5	8 Axle Super B	137,850	38,000	50
1998	750,000	10/Axle	198,000	51,000	73.5	8 Axle Super B	137,850	38,000	50

Notes:
* tons are short tons of 2,000 lbs.
** these years a "mixed fleet" of 9 axle and 10 axle units were used; GVW and payload for 10 axle unit shown

Table 3: History of the Esterhazy "Special Haul" from 1974 through 1998

Trucking was started in 1968 at legal Gross Vehicle Weights (at that time the unit was a five axle semi-trailer, 3S-2 unit, with a gross vehicle weight of 74,000 lbs). In 1969, there was a pilot agreement signed between IMC and the Saskatchewan Government. This led to reconstruction of Highway 9, starting in 1970 at the International boundary, moving northward.

On completion of the route in 1974, gross vehicle weights were increased to 138,000 lbs on a 9 axle double trailer combination as illustrated in Figure 5. At that time, the "normal" allowable weight on a double trailer combination was 110,000 lbs GVW – which was a 7 axle configuration.

Between 1974 and 1993, there were progressive increases to the allowed gross vehicle weight configuration of trucks used on the haul. By 1993, on a 10 axle unit, the largest (newest) trucks in the fleet were operating at GVW of 198,000 lbs. This compared to the "normal" legal highway configuration, an 8 axle super-B train, which operates at 62,500 kg (GVW), or 137,500 lbs. These configurations continued operation for a further 5 years.

The consultant was advised that the IMC Esterhazy potash haul was discontinued in late 1998, on the basis of an attractive railway rate package, that was accepted by that company.

Although the consultant does not have precise records of the project tonnage and years when weight increases were implemented for this haul, Table 3 has been reconstructed from the consulting files for "benchmarking" studies undertaken by Trimac for various clients in 1981, 1988 and 1993, which looked at the Esterhazy Potash Haul.

4. BULK HAULING PROGRAM

Following the precedent setting Esterhazy potash haul, Saskatchewan Highways and Transportation became involved in similar projects, at the request of various key Saskatchewan industrial sectors, at various times over the past 25 years.

In order to understand the scope of similar enhanced GVW bulk hauling trucking, the consultant met with the client, in Regina, and was provided information from the largest and most significant special hauling agreements. For most of these programs, the information that was available concerns the current scope of the programs – not necessarily for the historical period back to when each of them was initiated.

4.1. Fuel Distribution For Esso (R&G Trucking)

Esso Petroleum distributes fuel throughout Saskatchewan from Regina using the services of a contract carrier, R&G Trucking. Most of the hauling associated with that contract is undertaken using standard "legal" highway configurations. These would be primarily 8 axle super B-train units that are licensed to operate at a gross vehicle weight of 62,500 kg. The approximate tare weight of such a unit is 18,500 kg, resulting in a legal payload of approximately 44 tonnes on the primary highway system, with payload reductions by 8 tonnes for movement at secondary weights of 54,500 kg. (See section 2.2).

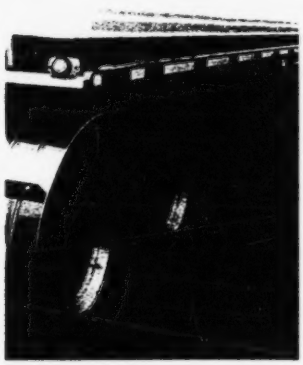


Figure 6: Central Tire Inflation (CTI) Technology

Figure 6, at the left, illustrates the installation of CTI (central tire inflation) technology on a trucking combination. Using this technology, as previously noted in Section 2.3, a truck operator is able to pressurize or depressurize the tires on a combination from inside of the tractor cab. When the tires are depressurized, the "contact area" with the road is increased, permitting a heavier load to be hauled without damaging the pavement surface. In order that the tire sidewalls are not damaged, the operator will operate the unit at a slower speed. Referring back to Figure 2, such a unit is especially useful when traversing a variety of route categories (primary, secondary, 10 month primary), if it can be used to operate at a higher than otherwise GVW on the secondary.

In such an operation, the driver can use the CTI to reduce tire pressure and carry a heavier load on a secondary class route (at lower speed), then when returning to the primary network, can repressurize the tires and resume speed.

The consultant was advised that R&G Trucking, the hauling contractor, had 5 tractors licensed to work doing fuel distribution using this CTI technology. We were further advised that as well as operating 8 axle Super-B trains using this technology (which permits primary weights to be hauled on secondary routes, identified on a map in the hauling agreement), R&G also operated some 9 axle configurations. The weight distribution for this configuration is as illustrated in Figure 7.

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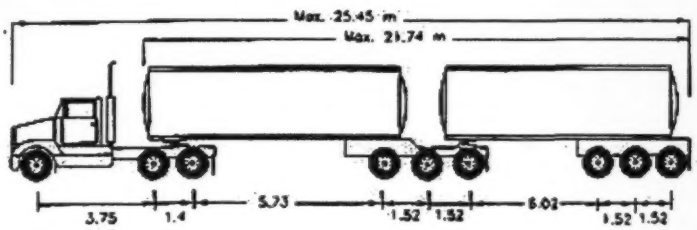
VEHICLE WEIGHTS AND DIMENSIONS

9 AXLE "B" TRAIN



AXLE GROUP WEIGHTS				MAX GVW
1. CLASS 1 ROADS (12 MONTHS)				
5 500 kg	18 500 kg	24 000 kg	24 000 kg	72 000 kg
2. CLASS 2 ROADS (SECONDARY)				
3 MONTHS (DEC,JAN,FEB)				
5 500 kg	18 500 kg	24 000 kg	24 000 kg	72 000 kg
9 MONTHS (MAR,APRIL,MAY,JUNE,JULY,AUG,SEPT,OCT,NOV – CTI REQUIRED)				
5 500 kg	17 000 kg	24 000 kg	24 000 kg	70 500 kg
9 MONTHS (MAR,APRIL,MAY,JUNE,JULY,AUG,SEPT,OCT,NOV – CTI NOT REQUIRED)				
5 500 kg	14 500 kg	20 000 kg	20 000 kg	60 000 kg
3. CLASS 3 ROADS				
2 MONTHS (MAY,JUNE – CTI REQUIRED)				
5 500 kg	17 000 kg	24 000 kg	24 000 kg	70 500 kg
2 MONTHS (MAY,JUNE – CTI NOT REQUIRED)				
5 500 kg	14 500 kg	20 000 kg	20 000 kg	60 000 kg
10 MONTHS (JULY,AUG,SEPT,OCT,NOV,DEC,JAN,FEB,MAR,APRIL)				
5 500 kg	18 500 kg	24 000 kg	24 000 kg	72 000 kg

Figure 7: 9 Axle CTI Technology – Petroleum Tank Truck Configuration(s)

The road classifications for these hauls were "mapped" in the hauling agreement, essentially duplicating the network as shown in Figure 2, in terms of year round primary, 10 month primary, and secondary CTI configurations. This is shown in Figure 8, on the following page.

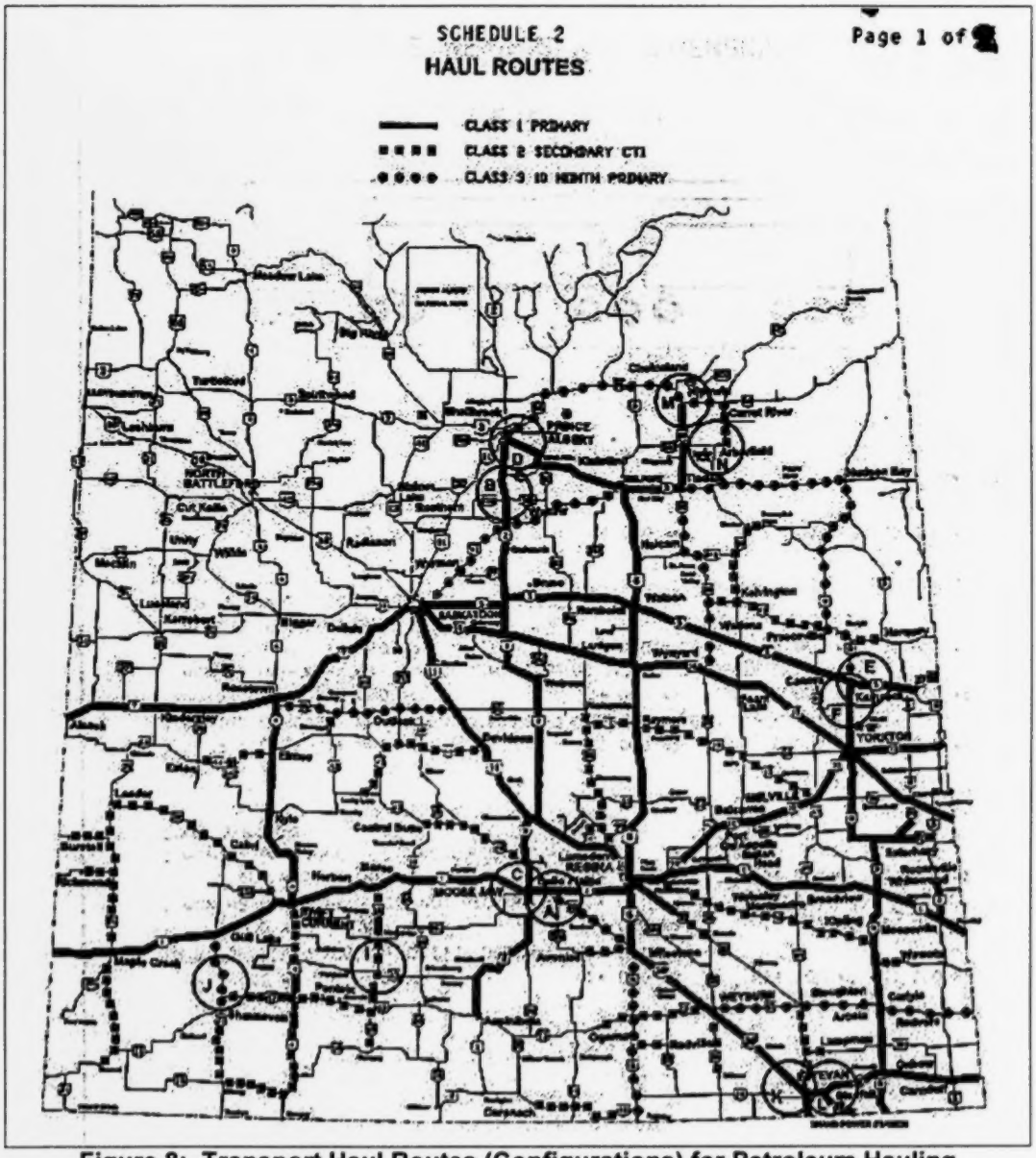


Figure 8: Transport Haul Routes (Configurations) for Petroleum Hauling

In terms of destinations served, only a portion of Esso's total petroleum tonnage in the study region would be moved in the special haul permit configurations. The rest of the hauls would be done using standard licensed configurations, outside of the Special Hauling Program. A sample of petroleum hauling, by destination, was provided to the consultant for analysis. This was calibrated to Trimac's Motor Carrier Fleet Analysis Model in order to ascertain whether the hauling activity would fully utilize 5 power units operated under the special hauling program. Resulting from this analysis, the distribution of trips outlined in following Table 4 was developed, as a representative

estimate of trucking activity by 5 tractor units hauling 8 axle and 9 axle CTI equipment, on an annual basis.

Origin	Destination	Commodity	Shipping Quantity (Tonnes)	Driven Distance Per Trip (km)	Trailer Type
Regina	Arbourfield	fuel	615	745	8 Axle CTI
Regina	Avonlea	fuel	1,580	158	8 Axle CTI
Regina	Bruno	fuel	44	538	8 Axle CTI
Regina	Burstall	fuel	44	898	8 Axle CTI
Regina	Cabri	fuel	132	624	8 Axle CTI
Regina	Carrot River	fuel	220	793	8 Axle CTI
Regina	Central Butte	fuel	966	313	8 Axle CTI
Regina	Climax	fuel	834	809	8 Axle CTI
Regina	Coronach	fuel	1,361	467	8 Axle CTI
Regina	Craven	fuel	351	42	8 Axle CTI
Regina	Dinsmore	fuel	44	567	8 Axle CTI
Regina	Francis	fuel	527	137	8 Axle CTI
Regina	Hodgeville	fuel	395	432	8 Axle CTI
Regina	Ituna	fuel	44	393	8 Axle CTI
Regina	Kelvington	fuel	132	583	8 Axle CTI
Regina	Kipling	fuel	2,810	306	8 Axle CTI
Regina	Lampman	fuel	1,800	387	8 Axle CTI
Regina	Leader	fuel	176	793	8 Axle CTI
Regina	Lucky Lake	fuel	44	591	8 Axle CTI
Regina	Mankota	fuel	439	600	8 Axle CTI
Regina	Montmartre	fuel	790	184	8 Axle CTI
Regina	Nokomis	fuel	1,580	311	8 Axle CTI
Regina	Norquay	fuel	176	575	8 Axle CTI
Regina	Ogema	fuel	571	230	8 Axle CTI
Regina	Ponteix	fuel	44	608	8 Axle CTI
Regina	Porcupine Plain	fuel	44	712	8 Axle CTI
Regina	Punnicy	fuel	44	258	8 Axle CTI
Regina	Radville	fuel	395	269	8 Axle CTI
Regina	Regina Beach	fuel	220	100	8 Axle CTI
Regina	Rhein	fuel	395	451	8 Axle CTI
Regina	Richmound	fuel	1,361	896	8 Axle CTI
Regina	Tribune	fuel	1,185	327	8 Axle CTI
Regina	Wowota	fuel	44	419	8 Axle CTI
Regina	Consul	fuel	483	461	8 Axle CTI
Regina	Alsask	fuel	50	962	9 Axle CTI
Regina	Assiniboia	fuel	3,300	346	9 Axle CTI
Regina	Balcarres	fuel	1,850	180	9 Axle CTI

Table 4: Estimated Esso (R&G) Annual Hauling (Part 1 of 3)

Origin	Destination	Commodity	Shipping Quantity (Tonnes)	Driven Distance Per Trip (km)	Trailer Type
Regina	Belle Plaine	fuel	50	89	9 Axle CTI
Regina	Bienfait	fuel	550	432	9 Axle CTI
Regina	Broadview	fuel	200	300	9 Axle CTI
Regina	Canora	fuel	19,000	475	9 Axle CTI
Regina	Camduff	fuel	250	587	9 Axle CTI
Regina	Chamberlain	fuel	50	176	9 Axle CTI
Regina	Cudworth	fuel	50	553	9 Axle CTI
Regina	Dafoe	fuel	450	300	9 Axle CTI
Regina	Davidson	fuel	5,100	358	9 Axle CTI
Regina	Delisle	fuel	50	588	9 Axle CTI
Regina	Elrose	fuel	50	716	9 Axle CTI
Regina	Esterhazy	fuel	2,350	445	9 Axle CTI
Regina	Estevan	fuel	12,800	403	9 Axle CTI
Regina	Foam Lake	fuel	2,550	446	9 Axle CTI
Regina	Ft. QuAppelle	fuel	250	147	9 Axle CTI
Regina	Grenfell	fuel	900	248	9 Axle CTI
Regina	Gull Lake	fuel	6,950	601	9 Axle CTI
Regina	Herbert	fuel	1,800	403	9 Axle CTI
Regina	Humboldt	fuel	50	438	9 Axle CTI
Regina	Indian Head	fuel	250	139	9 Axle CTI
Regina	Kamsack	fuel	200	538	9 Axle CTI
Regina	Kinistino	fuel	50	617	9 Axle CTI
Regina	Kyle	fuel	50	629	9 Axle CTI
Regina	Langenburg	fuel	1,350	459	9 Axle CTI
Regina	Lanigan	fuel	3,700	346	9 Axle CTI
Regina	Lumsden	fuel	1,850	52	9 Axle CTI
Regina	Maple Creek	fuel	1,550	767	9 Axle CTI
Regina	Melville	fuel	1,050	290	9 Axle CTI
Regina	Milestone	fuel	50	110	9 Axle CTI
Regina	Moose Jaw	fuel	11,050	172	9 Axle CTI
Regina	Moosomin	fuel	3,200	445	9 Axle CTI
Regina	Morse	fuel	1,300	372	9 Axle CTI
Regina	Naicam	fuel	1,000	453	9 Axle CTI
Regina	Nipawin	fuel	3,250	748	9 Axle CTI
Regina	Oxbow	fuel	1,850	577	9 Axle CTI
Regina	Prince Albert	fuel	50	728	9 Axle CTI
Regina	Raymore	fuel	1,050	224	9 Axle CTI
Regina	Richardson	fuel	50	32	9 Axle CTI
Regina	Rocanville	fuel	4,000	496	9 Axle CTI
Regina	Rosetown	fuel	50	795	9 Axle CTI
Regina	Saskatoon	fuel	50	517	9 Axle CTI
Regina	Swift Current	fuel	11,700	490	9 Axle CTI
Regina	Tisdale	fuel	3,150	604	9 Axle CTI

Table 4: Estimated Esso (R&G) Annual Hauling (Part 2 of 3)

Origin	Destination	Commodity	Shipping Quantity (Tonnes)	Driven Distance Per Trip (km)	Trailer Type
Regina	Wadena	fuel	850	495	9 Axle CTI
Regina	Watrous	fuel	1,600	358	9 Axle CTI
Regina	Watson	fuel	250	387	9 Axle CTI
Regina	Weyburn	fuel	1,400.00	248	9 Axle CTI
Regina	White City	fuel	250	32	9 Axle CTI
Regina	Whitewood	fuel	1,800.00	348	9 Axle CTI
Regina	Wolsley	fuel	400	195	9 Axle CTI
Regina	Wynyard	fuel	950	348	9 Axle CTI
Regina	Yorkton	fuel	2,450.00	377	9 Axle CTI

Table 4: Estimated Esso (R&G) Annual Hauling (Part 3 of 3)

4.2. Federated Co-Operatives

Saskatoon based Federated Co-operatives has licensed a similar 9 axle CTI based petroleum haul, using a unit configuration similar to that shown in previous Figure 7. As with the Esso petroleum hauls (of R&G), the consultant was provided an estimate of tonnage hauled to specific locations and a map of hauling network locations.

We were further advised by the client that Federated had licensed 20 – 9 axle CTI configuration units for the haul.

Table 5, on the next page, provides the particulars of the hauling case.

In addition to the petroleum hauls outlined in Table 5, we were further advised that Federated Co-operatives was operating two additional hauls:

- 9 axle CTI units to haul 2000 tons per year (about 40 loads) to points in northern Saskatchewan (eg. the Uranium mines, see next section).
- 200 trips per year made with long triple combinations between Regina and Saskatoon, as illustrated in Figure 9.

Place	Remarks	Estimated Tonnes Annual	Two Way Km
Archerw	ss	1990.32	558.4
Gas Bar		1448.4	558.4
Avonlea		650.76	558.4
Tisdale	bulk	275.88	464.96
Birch Hills		627	286.08
Broadview	ss	130.8	784.64
Cowesse	ss	483.12	784.64
Canora	ss	872.76	606.4
Canora	Tempo	447.12	606.4
Carrot	Pumps	815.04	606.4
Churchbridge		4346.76	723.52
Colonsay	ss	584.04	113.28
Service Stat		897.72	113.28
Craik		51.6	266.24
Craik	ss	828.84	266.24
#11 Con Stor		499.44	266.24
Girvin	Keyop	368.04	236.48
Bennett's		630.96	236.48
Davidson	ss	835.32	206.72
Davidson	Tempo	470.76	206.72
Delisle	Gas	1594.8	69.44
Unity		12406.2	385.6
Estevan	CL	2846.28	873.92
Eston	ss	567.84	393.28
Fairy	Bulk	601.44	393.28
Frontier	Blk	3618.6	852.8
Herbert	GB	304.92	516.8
Herbert	ss	852.96	516.8
Hoosier	bulk	3022.32	516.8
Humboldt	Cdl	809.4	214.72
Imperial		611.76	290.24
Kenaston	Store	483.48	141.12
Coleville		1388.4	405.44
Kindersley	Pumps	3824.4	381.76
Becks	Gas	1981.2	381.76
Kinist	SS	621.72	381.76
Lafleche		282	695.68
Raymore	S st	1220.28	369.92
Raymore	Bulk	9080.88	369.92
Nokomis	Cdlk	249.12	302.4
Punnichy	SS	654.36	403.84
T&K	Gas Bar	721.2	403.84
Watson	Bulk	818.52	296.32
Liberty		1238.16	336
Lloydminster	Bulk	3904.08	527.36
Lloydminster	CGB	1665.12	527.36
Lashburn		6205.8	469.44
Neilburg		390.36	441.6
Matador		248.04	441.6
Meadow Lake		8325.96	575.04
Serv. Centre		333.36	575.04
Melfort	Cardlock	1005.12	391.36
Melfort	Service s	1469.04	391.36
St Brieux		909.72	345.92
Moose Jaw	ss	1360.56	423.36
Moose Jaw	Bulk	6103.8	423.36
Moose Jaw	B-Jones	586.08	423.36
Moosomin	ss	1062.48	925.76
Rocanville		630.72	876.16
Odessa		1806	594.24
Parkland	Cdl	1308.72	594.24
Hudson Bay	Blk	4356.24	689.6
Nipawin	H&A	841.56	559.04
Swift Current	Agro	8029.92	508.8
Kyle	Farm	2228.52	371.52
Tompkins	ss	1176.48	371.52
Gull Lake	Farm	7469.88	618.24
Hodgeville		537.24	546.56
Cabri	ss/cl	563.52	638.08
Abbey	Farm	1117.92	671.68
Sceptre	Farm	3247.2	592.32
Cabri	Bulk	4131.6	638.08
Melville	Sst	1559.28	649.6
Prince Albert	Bulk	1628.88	278.4
Prince Albert	16 st ss	1892.28	278.4
Prince Albert	gas bar	591.84	278.4
Prince Albert	Cardlock	1260.36	278.4
Paddockwood		368.88	278.4
Domremy	Bulk	3082.92	278.4
Smeaton	Pet	859.2	435.52
La Ronge	Air Ronge	483.68	715.52
Bloomfields		305.28	715.52
Shellbrook		5210.28	263.04
Big River		999.96	425.92
Quill Lake		1856.28	336
Outlook	ss	486.92	168.64
Beechy	blk/ss	3075.6	357.76
Rosetown	ss	2175.36	216.64
Rosetown	clk	1761.72	216.64
Saskatoon	ss	4389.72	32
Saskatoon	ss	6116.88	32
Saskatoon	ss	2257.56	32
Saskatoon	ss	353.64	32
Saskatoon	ss	1912.32	32
Saskatoon	ss	1410.48	32
Warman		676.92	46.08
Vanscoy		759.48	39.68
Shaunavon		6494.52	719.68
Shaunavon		1418.4	719.68
Quappelle		777.24	719.68
Simpson		2790.96	266.24
Southey	ss	1866.84	473.28
Maple Creek	blk	5583.48	783.04
Spiritwood		1805.88	334.4
Central Butte		6829.92	353.92
JN Miller		1023.24	353.92
Lucky Lake		1150.2	299.84
Turtle	Cardlock	1930.32	299.84
St Walburg		414.12	501.44
Vanguard		1808.04	644.16
Wadena	ss	903.6	403.52
Watrous	ss	2775.96	220.48
Weyburn	x	1857.72	703.04
Weyburn	blk	6810.84	703.04
Wilkie	cl	539.64	329.92
Wyn	Gas Bar	2521.92	329.92
Yorkton	Gas Bar	2345.88	622.4
Yorkton	FCS	16734.96	622.4
Theodore		574.92	538.88
Kamsack	ss	1971.72	683.84
Young	ss	324	170.88
Pontrias	CBP	6178.68	170.88
Rockglen	CBP	5727.6	755.2
Peterson	CBP	4158.12	136.96
Tadmore	CBP	13586.28	136.96
Rama	CBP	5571.36	136.96
Greenwat	CBP	11790.6	136.96
Gladmar	CBP	6804	136.96
Brock	CBP	10163.76	320
Saskatoon	Feed Plant	566.04	32
Outlook	CBP	4744.2	168.64
Dysart	CBP	10386.96	538.88
Saskatoon	Keyop	2085.72	32
Killaly	CBP	8102.64	687.36
Spalding	CBP	9720.72	342.08
Moosomin	cl	657.96	925.76
Bengough	CBP	8431.44	717.76
Saskatoon	CBP	7483.52	32
Landis	CBP	6877.8	266.24
Estevan	CBP	13576.2	873.92
Moosomin	CBP	6585.36	925.76
Morse	CBP	5546.76	488.96
Peebles	CBP	9647.4	727.36
Glaslyn	CBP	11894.04	398.08
Davidson	CBP	5014.32	206.72
Colonsay	CBP	10784.4	113.28
Kinistino	CBP	8950.92	333.76
Kincaid	CBP	9303.6	644.16
Grenfell	CBP	10013.76	727.04
Elfros	CBP	12684.24	389.76
Hafford	CBP	8417.52	187.2
Assiniboia	CBP	11561.52	641.92
Kelliher	CBP	10861.2	641.92
Corinne	CBP	8647.92	574.08
Paving		716.88	574.08
Kindersley	transport	1129.68	381.76
Bradey	c trucking	617.52	381.76
Coronach	pr	4242.84	733.44
Southern		49.2	733.44
Coronach	sp	6007.44	733.44
Saskatoon	stc	268.2	32

Table 5: Product Volumes and Distances (Federated Coop) Fuel Hauls Ex Saskatoon using 9 Axle CTI Fleet

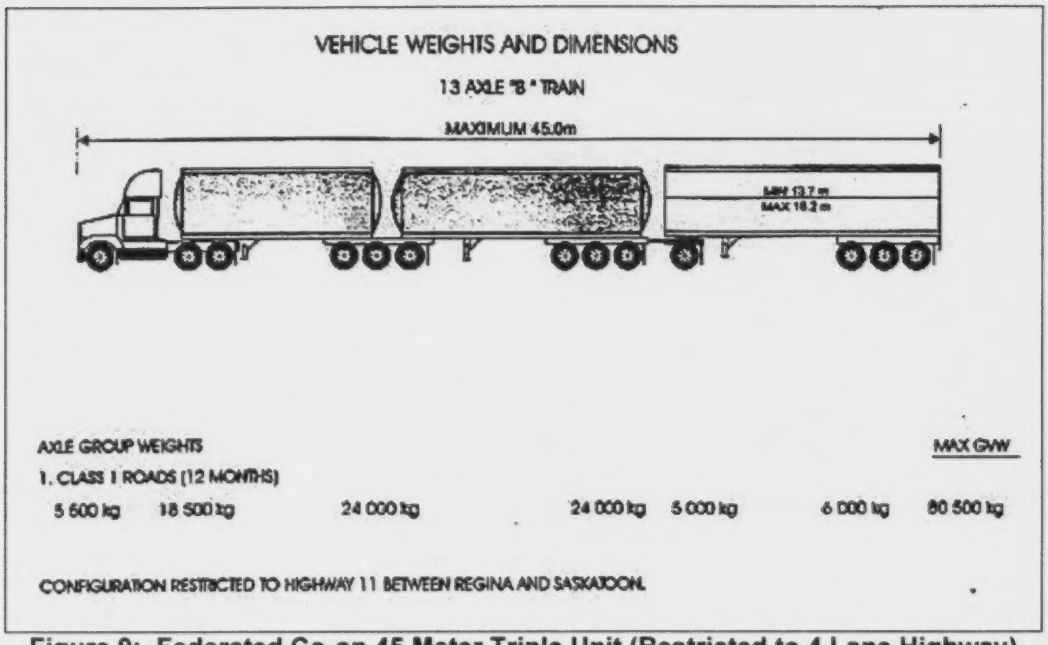


Figure 9: Federated Co-op 45 Meter Triple Unit (Restricted to 4 Lane Highway) Designated Route

The foregoing unit, when fully loaded, would have a total payload made up of:

- approximately 50 tonnes of petroleum products, plus
- approximately 2 or 3 tonnes in the van trailer (i.e. pallets, etc. on an otherwise empty move)

For the return movement, the rear tridem axle set on the rearmost van is slid backward and the (loaded) van is recoupled directly to the tractor unit, trailing the empty petroleum tankers. In this configuration, the total payload possible is:

- approximately 30.5 tonnes of freight in the van trailer (up to 53x8x8.5 = 3600 cu ft)
- the return movement of the empty petroleum train.

4.3. Northern (Uranium) Development Projects

Cameco and Cogema Resources operate uranium mining operations in the northern parts of Saskatchewan at Cigar Lake, Key Lake, McArthur River, McLean Lake and Rabbit Lake.

Northern Resource Trucking, (NRT) is a trucking company partnership owned jointly by first nations groups and Trimac Transportation that has been set up to provide transportation support to these northern mineral developments.

Northern Resource Trucking
Bulk Haul Loads
For Year ending December 31, 1999

Load Point	Unload Point	commodity	# of loads	Special GVW	Distance
Saskatoon	Cigar Lake	Dry Bulk	64	54,500	463
Regina	Cigar Lake	Freight	53	62,500	597
Saskatoon	Cigar Lake	Freight	76	62,500	463
Ft. Sask	Key Lake	Acid/stainless	11	62,500	582.4
Ft. Sask	Key Lake	Anyhdrous	70	62,500	582.4
Saskatoon	Key Lake	Dry Bulk	253	72,500	485
Saskatoon	Key Lake	Fuels	17	62,500	485
Edmonton	Key Lake	Propane	244	62,500	582.4
Lloydminster	Key Lake	Sulphur	163	72,500	446
Saskatoon	McArthur Rvr	Chlorate	3	62,500	535
Saskatoon	McArthur Rvr	Dry Bulk	196	72,500	535
Saskatoon	McArthur Rvr	Dry Bulk	13	62,500	535
Saskatoon	McArthur Rvr	Freight	26	62,500	535
Saskatoon	McArthur Rvr	Fuels	20	62,500	535
Edmonton	McArthur Rvr	Propane	126	62,500	632.4
Ft. Sask	McClean Lake	Acid/stainless	44	62,500	720
Ft. Sask	McClean Lake	Anyhdrous	15	62,500	720
Saskatoon	McClean Lake	Dry Bulk	99	72,500	463
Saskatoon	McClean Lake	Fuels	37	65,500	463
Moose Jaw	McClean Lake	Propane	185	65,500	627
Regina	McClean Lake	Sulphur	37	72,500	597
Key Lake	Prince Albert	Dry Bulk	174	72,500	430.6
McClean Lake	Prince Albert	Dry Bulk	18	72,500	380
Saskatoon	Rabbit Lake	Acid/stainless	24	65,500	463
Regina	Rabbit Lake	Dry bulk	7	72,500	597
Saskatoon	Rabbit Lake	Dry bulk	258	72,500	463
Saskatoon	Rabbit Lake	Freight	25	62,500	463
Saskatoon	Rabbit Lake	Fuel	8	65,500	463
Edmonton	Rabbit Lake	Propane	261	62,500	720
Regina	Rabbit Lake	Sulphur	148	72,500	597

Table 6: Uranium Project Related Tonnages Covered Under Special Hauling Programs

Table 6 outlines the special hauling tonnages, on an annual basis, for these projects. Equipment used consists of a fleet of 8 and 9 axle CTI equipped units.

4.4. Saskatchewan Wheat Pool

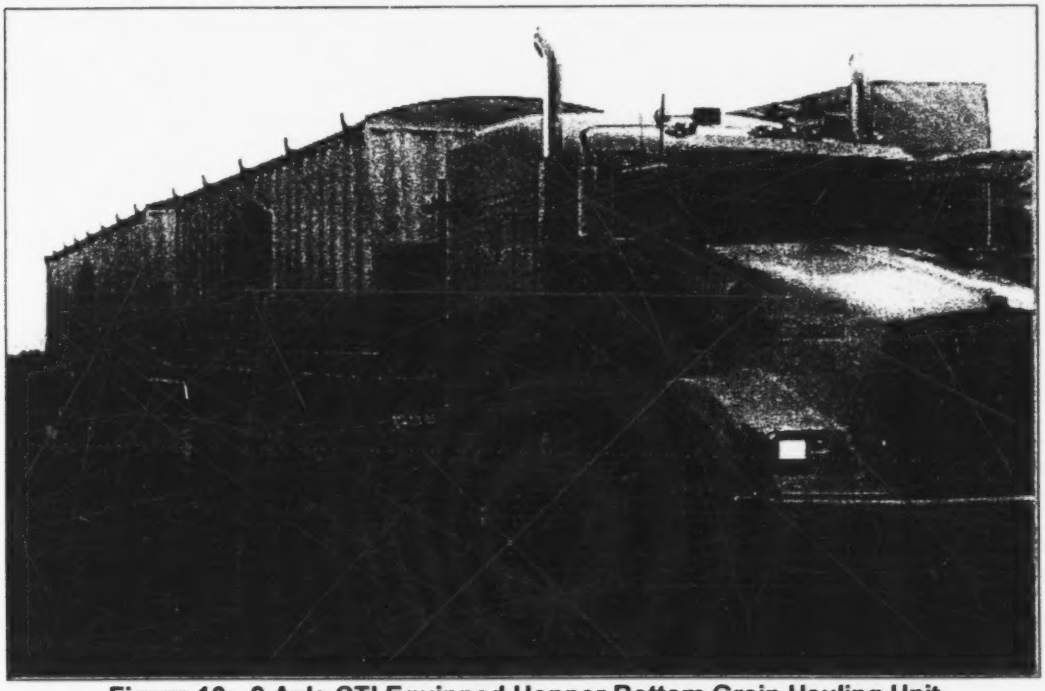


Figure 10: 9 Axle CTI Equipped Hopper Bottom Grain Hauling Unit

In 1999, Saskatchewan Wheat Pool purchased 6 units of the type illustrated in Figure 10. On Class 1 primary routes, such a unit can operate at a GVW of 77,500 kg, year round not using the CTI. For the 10 month primary network, the unit is restricted to a GVW of 70,500 kg during May and June (using the CTI), but does not use CTI for the rest of the year on these routes. On the Class 2 secondaries, hauling is at 70,500 kg GVW for 9 months of the year (using CTI), with 77,500 kg GVW permitted (with no CTI) during December, January, February.

Following figures 11 and 12 illustrate the highway network and loading configurations for this special haul. As yet, specific hauling activity reports have not been received by Saskatchewan Highways and Transportation for this NEW special haul.

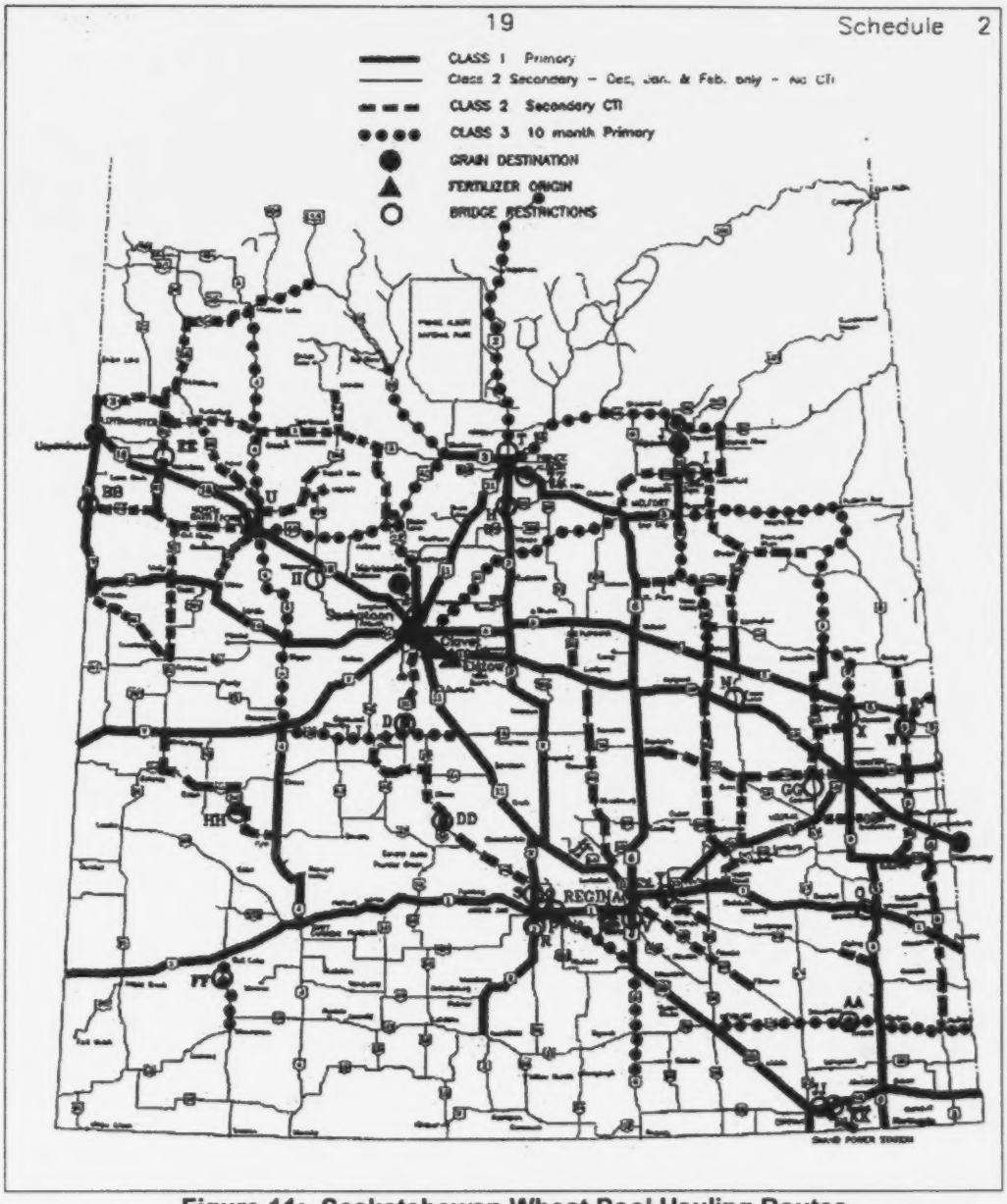


Figure 11: Saskatchewan Wheat Pool Hauling Routes

Please note that there are bridge payload restrictions impacting continuous movements on the network in question that may influence the feasible "directionality" of grain movements using these units.

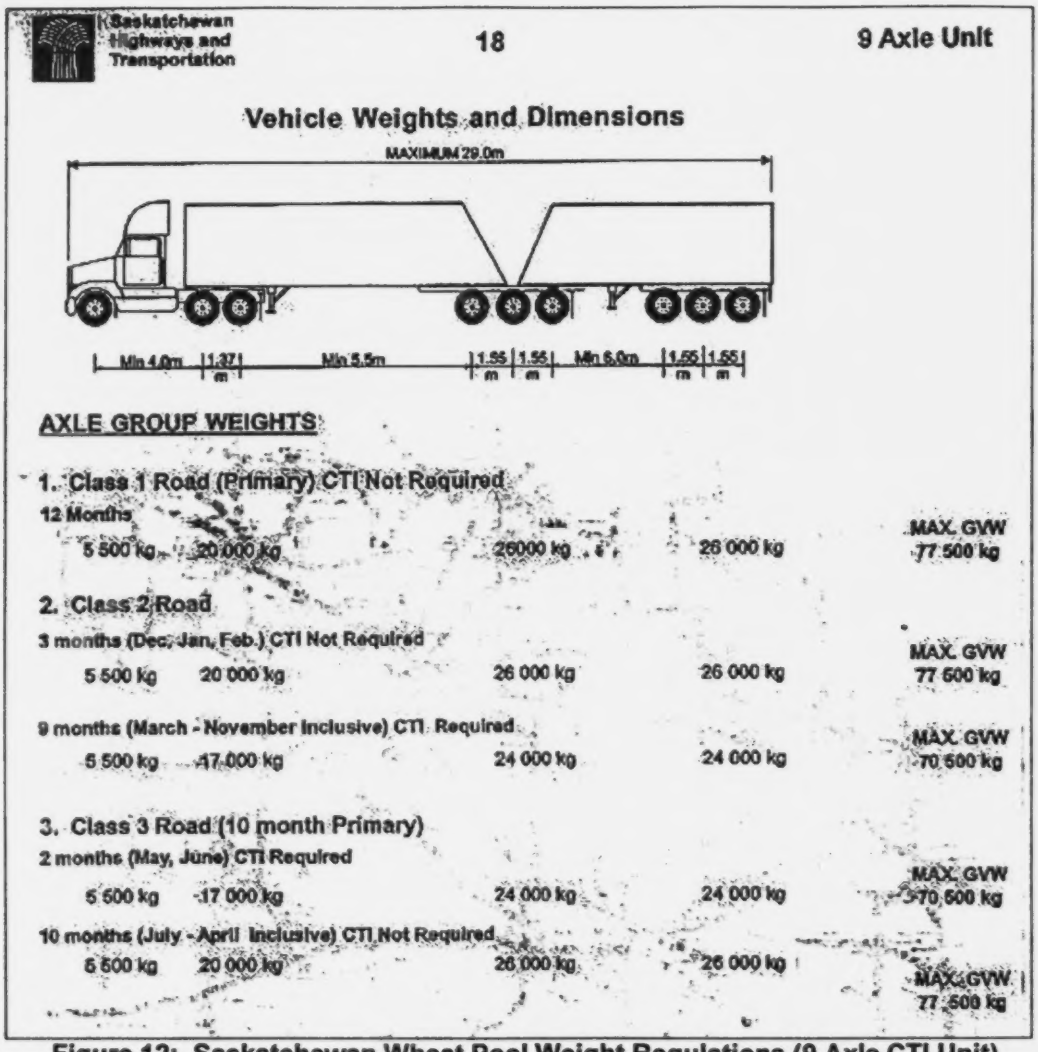


Figure 12: Saskatchewan Wheat Pool Weight Regulations (9 Axle CTI Unit)

In view of the fact that the client has not yet secured specific hauling records for this fleet of 6 new CTI units, Trimac will assess benefits on the basis of assuming annual operations per truck combination of 100,000 miles per truck per year. Comparison will be made of hauling with the 9 axle unit at an assumed composite payload of 53.5 tonnes versus using a standard 8 axle Super-B train, operating mostly on primary routes, with an effective payload of 42 tonnes.

Trimac Consulting Services was retained by Transport Canada to evaluate grain hauling in Western Canada in 1997, 1998 and again in 1999. From these prior studies, it was ascertained that the average intermediate distance grain haul in Western Canada (as opposed to local trucking from farms to elevators, in smaller truck configurations) was for an average one way haul distance of 685 kilometers. Furthermore, most hopper bottom operators hauling grain and fertilizer products tended to average approximately

75% loaded miles. These parameters were used by the consultant for purposes of the current study.

4.5. Other Special Hauls

Aside from the Timber program and the EEMV hauls (to be discussed in sections 5 and 6), the client identified some additional special hauls that were authorized. These tended to be smaller in scope than the hauls identified in Section 3 and Sections 4.1 through 4.4, however they were important to the users of the program, even if the scale of hauling activity is smaller than that tabulated for the other hauling programs.

Hauls noted under this "miscellaneous" category included:

- Lake Diefenbaker Potato Corporation (operation closed, permit expired Nov 1999)
- Saskatchewan Power Corporation (a special permit for moving large poles)
- Keyser Farms Limited, Fill-More Seeds Inc., Vigro Seed and Supply, Prairieland Pork Farms Inc., Birsay Pork Farms Inc. and Spudco, which are smaller agricultural operations.

As noted above, the activities associated with these hauls are significantly less, measured in terms of kilometers driven, than are the activities associated with bulk hauls, forestry program and EEMV activity. Furthermore, participants' licensing of vehicles is irregular and some of the identified activities are discontinued.

For this reason, an accurate detailed estimate of haul costs and savings achieved is not possible for these movements. On the basis of information supplied to the consultant, one would estimate that the magnitudes of user impacts (savings) would be less than 5% of all the savings realized from the major hauls (bulk hauling, eemv and forestry programs).

5. ENERGY EFFICIENT MOTOR VEHICLE (EEMV) HAULS

As noted previously in section 2.3, various combinations of Rocky Mountain Doubles, Turnpike Doubles and Triple Trailer Combinations have been allowed to operate on Saskatchewan Highways. These combinations consist primarily of van units, although some flat deck trailers are part of the fleet mix.

Operators of a fleet that is estimated to total approximately 250 licensed power units include the following companies:

• SLH Transport *	• Frontier Inc.
• Jays Moving	• Canadian Freightways
• Roseneau Transport	• Exalta Transport
• Prudhomme Trucking	• Horton Distribution
• Coca-Cola	• Freight Flo Inc
• Federated Co-op	• Legal Freight Services
• National Cartage	• TCT Atomic
• Calac Trucking	• Canada Safeway
• Kindersley Transport	• EBD Enterprises
• Ridsdale Transport	• Transx Limited
• T & T Trucking	• Canada Messenger

* Note: (Sears Canada owned trucking company)

A significant impact of allowing these operations is the availability, for moving foodstuffs and other retail goods, of efficient "volume hauling capacity" trucks.

A significant viability consideration, from using EEMV's, are the significant linehaul freight savings that are possible to retail enterprises that ship freight using these configurations. Such an enterprise will enjoy significantly reduced linehaul trucking costs to all of the major population centres in Western Canada: Vancouver, Calgary, Edmonton, Regina, Saskatoon, and Winnipeg.

In order to "calibrate" the EEMV costing comparison, Trimac reviewed the traffic volumes and truck counts for Saskatchewan highways as published in the 1999 Transport Canada Prairie Provinces Transportation Study. From a recent evaluation undertaken for the province of Alberta, the consultant also had estimates of numbers of Triples, Rocky Mountain Doubles and Turnpike Doubles moving to Saskatchewan via the interprovincial corridors, the Trans Canada Highway and the Yellowhead Route. In addition, we noted from the one week (24 hour) 1999 CCMTA Truck Classification Survey, that approximately 0.5% of vehicles passing highway scales in Western Canada were EEMV configurations.

Combining and working with all of this information, the consultant developed the estimated factored EEMV activity table presented in Table 7, following.

Trimac Estimate of EEMV Movements For Saskatchewan						Section				
			Estimated Movements (Daily)			Length		Operation	Vehicle Kilometers		
Route	Section	AADT	Doubles	RMD	Triples	Miles	Km	Days	Doubles	RMD	Triples
1	Trans Canada Highway (Entire)	3000	9	9	1.2	399.2	638.7	361	2,075,201	2,075,201	276,694
16	Lloydminster to Saskatoon	3500	10.5	10.5	1.4	164.8	263.7	361	999,479	999,479	133,264
16	Saskatoon to Manitoba Border	2000	6	6		245.3	392.5	256.5	604,027	604,027	0
11	Saskatoon to Regina	4000	22	5.4	1.8	151.5	242.4	361	1,925,141	472,535	157,512
7	Alta border to Highway 4 (Rosetown)	1500		4.5		88.8	142.1	256.5	0	163,996	0
7	Hwy 4 (Rosetown) to Saskatoon	2500		7.5		67.7	108.3	256.5	0	208,381	0
14	Alta border to Highway 4 (Biggar)	1000		3		92.6	148.2	350	0	155,568	0
14	Hwy 4 (Biggar) to Saskatoon	1800		5.4		57.1	91.4	350	0	172,670	0
10	Regina to Yorkton	2000		6		121.9	195.0	256.5	0	300,167	0
41	Saskatoon to Melfort	1200		3.6		122.3	195.7	350	0	246,557	0
11	Saskatoon to Prince Albert	3100		9.3		87.0	139.2	150	0	194,184	0
4	Hwy 1 (Swift Current) to Hwy 7 (Rosetown)	1400		10.5		91.2	145.9	256.5	0	392,999	0
4	Hwy 7 (Rosetown) to Hwy 14 (Biggar)	700		5.25		36.7	58.7	350	0	107,898	0
29	Hwy 14 (Wilkie) to North Battleford	900		6.75		39.2	62.7	350	0	148,176	0
4	North Battleford to Meadow Lake	1400		10.5		92.6	148.2	256.5	0	399,032	0
39	USA (Portal) to Hwy 6 and Moose Jaw	3000		22.5		150.0	240.0	256.5	0	1,385,100	0
6	Jct Hwy 39 to Regina	3000		22.5		25.0	40.0	256.5	0	230,850	0
6	Regina to Melfort	1200		9		168.4	269.4	350	0	848,736	0
3	Melfort to Prince Albert	1000		7.5		55.9	89.4	256.5	0	172,060	0
2	Prince Albert to LaRonge	900		6.75		136.6	218.6	150	0	221,292	0
9	Yorkton to Hwy 1	800		6		92.0	147.2	350	0	309,120	0
All	Total	39900	47.5	177.45	4.4	2485.8	3977.3		5,603,848	9,808,027	567,469

Table 7: Estimated Annual EEMV Activity For Saskatchewan Highway Routes

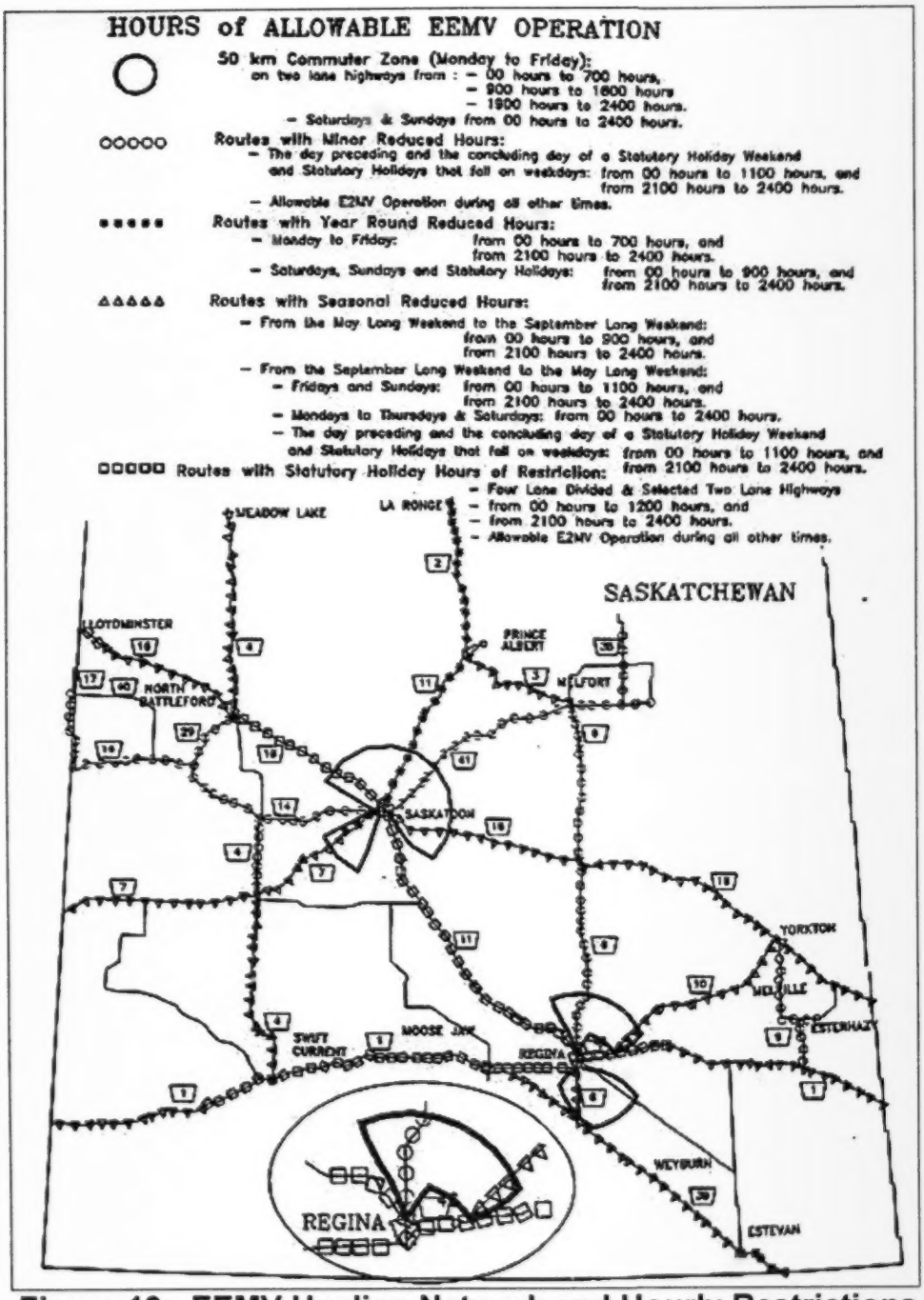

HOURS of ALLOWABLE EEMV OPERATION
50 km Commuter Zone (Monday to Friday):
on two lane highways from : – 00 hours to 700 hours,
– 900 hours to 1600 hours
– 1900 hours to 2400 hours.
– Saturdays & Sundays from 00 hours to 2400 hours.
Routes with Minor Reduced Hours:
– The day preceding and the concluding day of a Statutory Holiday Weekend and Statutory Holidays that fall on weekdays: from 00 hours to 1100 hours, and from 2100 hours to 2400 hours.
– Allowable E2MV Operation during all other times.
Routes with Year Round Reduced Hours:
– Monday to Friday: from 00 hours to 700 hours, and from 2100 hours to 2400 hours.
– Saturdays, Sundays and Statutory Holidays: from 00 hours to 900 hours, and from 2100 hours to 2400 hours.
Routes with Seasonal Reduced Hours:
– From the May Long Weekend to the September Long Weekend: from 00 hours to 900 hours, and from 2100 hours to 2400 hours.
– From the September Long Weekend to the May Long Weekend:
– Fridays and Sundays: from 00 hours to 1100 hours, and from 2100 hours to 2400 hours.
– Mondays to Thursdays & Saturdays: from 00 hours to 2400 hours.
– The day preceding and the concluding day of a Statutory Holiday Weekend and Statutory Holidays that fall on weekdays: from 00 hours to 1100 hours, and from 2100 hours to 2400 hours.
Routes with Statutory Holiday Hours of Restriction:
– Four Lane Divided & Selected Two Lane Highways
– from 00 hours to 1200 hours, and
– from 2100 hours to 2400 hours.
– Allowable E2MV Operation during all other times.
MEADOW LAKE
LA RONGE
SASKATCHEWAN
LLOYDMINSTER
PRINCE ALBERT
MELFORT
NORTH BATTLEFORD
SASKATOON
YORKTON
MELVILLE
ESTEVAN
SWIFT CURRENT
MOOSE JAW
REGINA
WEYBURN
REGINA

Figure 13: EEMV Hauling Network and Hourly Restrictions

Saskatchewan Highways and Transportation supplied the consultant with the information in Figure 13 concerning vehicle configuration and schedule restrictions on the highway network.

For assessing comparative "normal" highway configurations, as a point of comparison with the EEMV's, the consultant took note of the following "cubic capacity" information. In event that the movements tabulated for EEMVs in Table 7 were transported as non-EEMV trucks, the average loadsize would be smaller and the number of movements over the highway links identified would be larger. For purposes of estimating the load equivalency, the consultant has used the "cubic capacity" of trailer units for vans and the "square footage" capacity measure for flat deck trailer combinations.

As the EEMVs and non-EEMVs are both of the same width, this payload proportionality of truck combinations is therefore proportional to the unit length of the trailer combinations, as computed in Table 8, following.

Table 8: Load Equivalency Factors EEMV's to Standard Semi Trailer Loads

Configuration	EEMV Loaded Length	Non-EEMV Loaded Length	Load Equivalency (1 EEMV = ? non-EEMVs)
Rocky Mountain Double	45 feet + 26 feet = 71 feet	45 feet (semi)	1.58
Turnpike Double	45 feet + 45 feet = 90 feet	45 feet (semi)	2.0
Triple Trailer Combination	26 feet + 26 feet + 26 feet = 78 feet	45 feet (semi)	1.73

Using the foregoing load equivalency factors, the equivalent non-EEMV activity estimate was developed by the consultant.

6. SASKATCHEWAN TIMBER PROGRAM

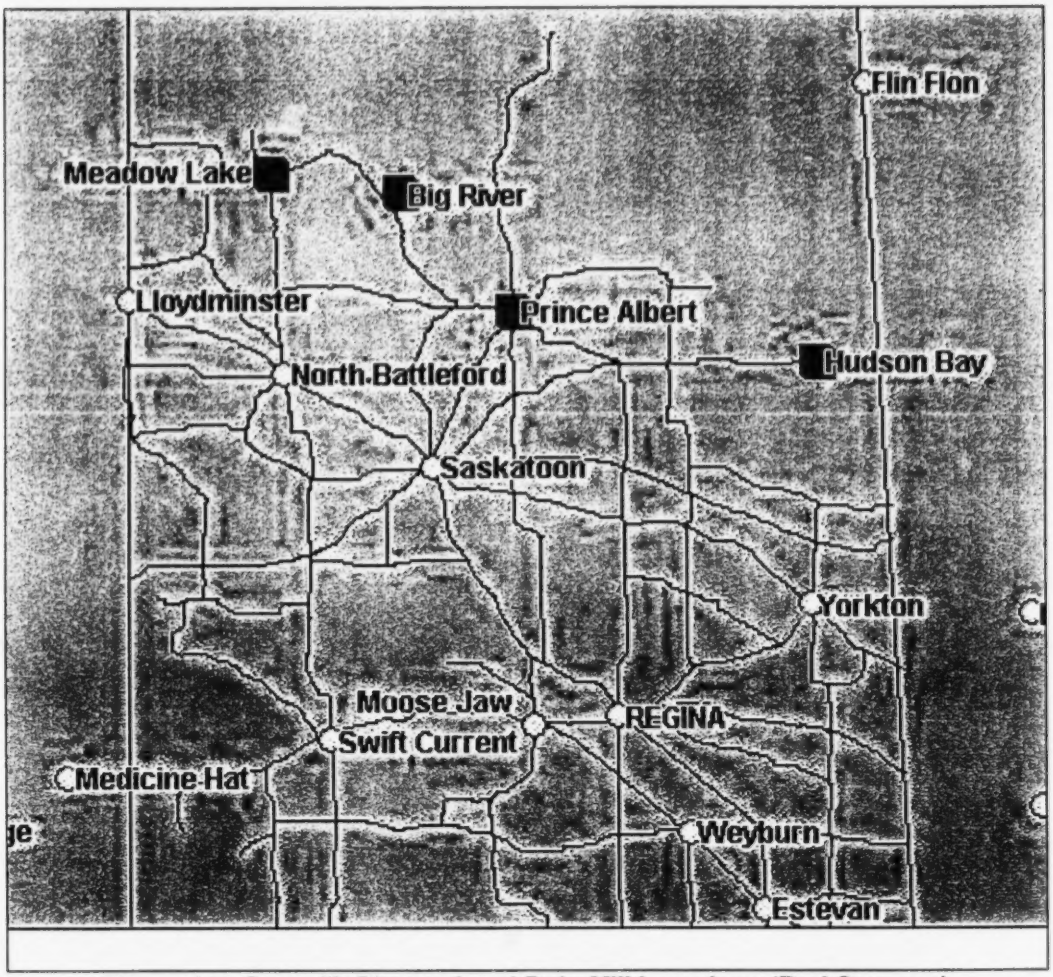


Figure 14: Sawmill, Plywood and Pulp Mill Locations (Red Squares)

Figure 14 illustrates the locations of the key forest products processing plants in Northern Saskatchewan. These forest products facilities are major components of the local regional employment base in these communities. Beyond this element of importance, several of the businesses represent important partnership alliances that involve first nations communities as investors, managers / key labour pool, and support service providers to "players" in the forestry/lumber sector.

As such, the viability of these businesses contributes significantly to the economic, cultural, political and social objectives embodied within various understandings between the first nations leaders, the province of Saskatchewan and the Federal Government.

Forestry Activity Estimates (Saskatchewan)										
Location	Corporation	Plant Type	Product	Annual Tonnes	Configuration	Payload (Tonnes)	Distance (Kilometers)	Annual Loads	Annual Km	Direct Mill Employment
Meadow Lake	Millar Western / Norsask	Pulp Mill	Chips	375,000	Overwidth B-Train 9'6"	48.5	153	7,732	1,182,990	199
Meadow Lake	NorSask (Mistik Management)	Sawmill	Logs	1,400,000	Triaxle Bunk	40.7	153	34,398	5,254,093	200
	(Norsask Sub-Total)			**1,775,000**				**42,130**	**6,437,083**	**399**
Meadow Lake	**Clearwater Forest Products Inc.**	**Sawmill**	**Logs**	**190,000**	**Triaxle Bunk**	**40.7**	**130**	**4,668**	**606,000**	**150**
Big River	Weyerhauser	Sawmill	Logs	1,064,000	Triaxle Bunk	40.7	167	26,143	4,370,421	200
Prince Albert	Weyerhauser	Pulp Mill	Chips	450,000	Overwidth B-Train 9'6"	45.0	157	10,000	1,569,604	750
	(Weyerhauser Sub-Total)			**1,514,000**				**36,143**	**5,940,025**	**950**
Hudson Bay	Saskfor/McMillan	Plywood	Logs	212,000	6 axle bunk	40.7	219	5,209	1,142,644	150
			Logs	213,000	8 axle bunk	54.5	219	3,908	855,908	150
	(McMillan - Weyerhauser Sub Total)			**425,000**				**9,117**	**1,998,552**	**300**
	Total/Average			**3,904,000**		**42**	**163**	**92,058**	**14,981,660**	**1,799**

Table 9: Special Hauling Program Activity Estimates and Direct Mill Employment: Forest Sector Industries

Table 9 lists the scope of the various forest products related industries in terms of the quantities of shipments that are currently moved under the special hauling programs in Saskatchewan and direct mill employment levels.

We see from Table 9 that the present scope of forest industry special hauling amounts to an estimated 3.9 million tonnes and approximately 92 thousand loads moving a total of almost 15 million kilometers annually, or a weighted average distance of approximately 163 kilometers per load.

In discussing the impact of the special hauling programs for Saskatchewan based forestry operations, virtually all of the operators advised the consultant that their project's economic viability depended significantly on access to the economic savings accruing from use of the special permit vehicles.

Some of the operations advised Trimac of their mill and/or supporting forest operations job count (i.e. person years equivalent of employment generated) directly. The balance of the information shown was developed from the Industry Canada / Strategis internet site – which provides firm / employment impact information for many key industrial developments by SIC code.

Note that direct mill employment for the forestry sector users of special permit programs appears to total some 1800 direct jobs – which is a significant component of the total labor force in the named communities. This estimate does not include the "indirect" or support jobs generated – eg. truck operations (management, driving, mechanics, other-support) or "contracted out" work such as plant maintenance, construction, supply of consumables, etc.

The consultant is advised that most of the generated jobs would disappear in event that the industry did not have access to the special hauling programs. This is because of the relatively "low product value" of forest sector outputs in comparison to logistics costs to move the inbound feed stocks of logs and chips into the respective sawmill and pulp mill operations.

6.1 Vehicle Configurations Used

Figure 15, following, provides diagrams and information about each of the special permit hauling vehicle configurations used by the forestry sector in Saskatchewan. Please note that each of the log hauling and chip applications may differ somewhat from the vehicle units illustrated in the diagram. However, the general "loading concept" shown is a reasonable representation of what the trucking industry is using for these hauls.

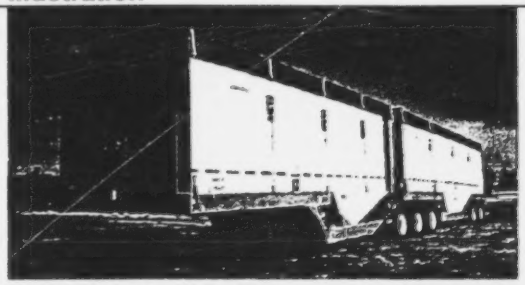
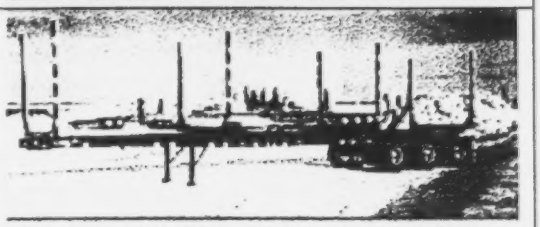
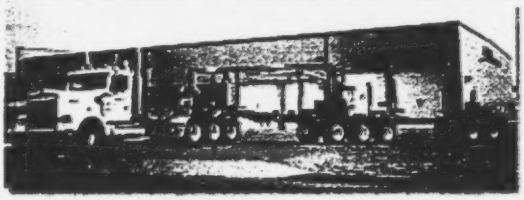
Application / Vehicle Configuration	Illustration
For hauling Chips to Pulp Mills / Overwidth B-Train (9' 6" Width versus standard regulation 8'6" Width): • 9'6" overall width • Tare weight 26,000 lbs • GVW is 3 months at 75 tonnes and 9 months at 69 tonnes (avg. annual is 70.5 tonnes). • Payload is 48.5 tonnes	
For hauling Logs to Sawmills and Pulp Mills / Overwidth Triaxle Log Trailer with 9' 6" wide bunks to hold logs: • 9'6" overall width • Tare weight 16,000 lbs • GVW is 62.5 tonnes • Payload is 40.7 tonnes	 Triaxle Straight Frame Lightweight Log Trailer
For hauling Logs to Sawmills and Pulp Mills / Overwidth 8 Axle B-train Logger with 9' 6" wide bunks to hold logs: • 9'6" overall width • Tare weight 23,000 lbs • GVW is 75 tonnes • Payload is 54.5 tonnes	 Super 'B' R.T.A.C. Logger Combination

Figure 15: Illustrations of Special Permit Forestry Hauling Configurations For Logs and Chips to Mills in Saskatchewan

In absence of the foregoing configurations of vehicle:

- Chips would move in a standard weight 8 axle super b-train unit of 8' 6" width at a weighted average GVW of 61.1 tonnes (10 months at 62.5 tonnes, 2 months of 54.5 tonnes) – which on a tare weight of 20 tonnes (tractor and trailer set) would lead to a payload of 41.1 tonnes.
- Logs moved in 6 axle semi configurations would be moved at a weighted average GVW of 41.625 tonnes (9 months at 40 tonnes and 3 months at 46.5 tonnes).
- Logs moved in 8 axle RTAC B-train configurations at a GVW of 75 tonnes would instead move at a GVW of 54.5 tonnes.

7. ECONOMIC BENEFITS OF SPECIAL TRUCKING

7.1. Direct Shipper Savings on Trucking

To assess the "savings" realized directly by shippers of products in Saskatchewan from the special hauling programs outlined in sections 3 through 6 of this report, Trimac made use of our proprietary "Trimac Motor Carrier Fleet Systems Analysis" computer model and extensive database of industry cost levels derived from trucking industry and supplier sources.

The approach is essentially to make use of an "activity based" evaluation of hauls that takes account of the trip cycle time components for:

- pre-trip inspection of vehicles
- positioning the unit to the load point
- loading the vehicle
- driving to the unload point
- en route stops for meals, vehicle inspections, and rest
- unloading the vehicle
- positioning the vehicle for the next load (or return empty to terminal)

Essentially, the Trimac model accounts for all elapsed time, distance driven per trip and accounts for hauls in terms of the total numbers of trips used (i.e. quantities moved divided by average trip payload). Factoring against the available time to perform the hauling, the model then evaluates the number of vehicles required for the haul.

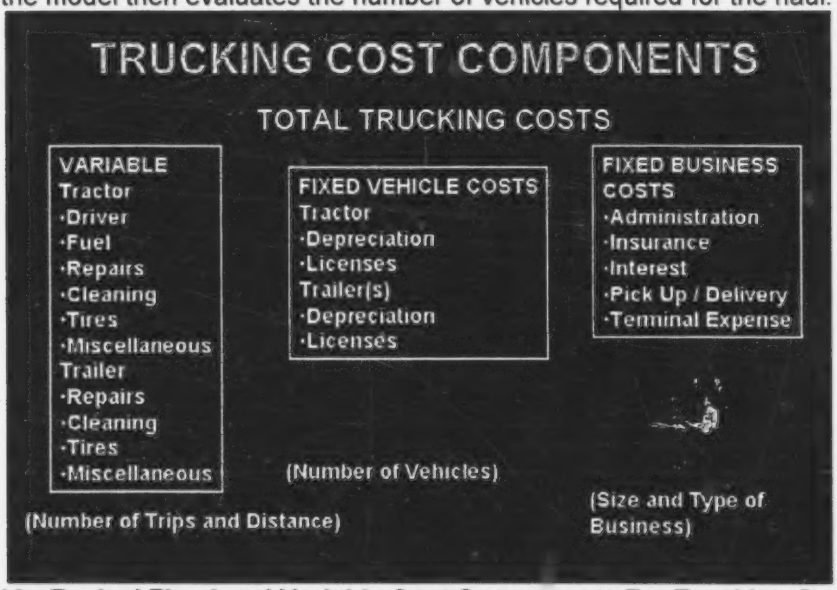


Figure 16: Typical Fixed and Variable Cost Components For Trucking Operations

The foregoing then permits a detailed component costing analysis to be developed for the hauling, in terms of all fixed and variable costing components. Figure 16 illustrates the typical fixed and variable cost components for a trucking operation. In our computerized model, the components are estimated in terms of total dollar costs for the

hauling as well as in terms of costs per operating (productive) hour, per mile (or kilometer) and as a percent of hauling revenue.

For a very detailed explanation of this methodology, interested readers are referred to "Operating Costs of Trucks In Canada", an Internet publication prepared annually by Trimac Consulting Services for Transport Canada. It is available at http://www.tc.gc.ca.

For purposes of our costing evaluations, all comparisons are developed on the basis of our 1999 Operating Costs of Trucks database. This "annualized" basis is an excellent resource for this project, especially as it does not become "hung up" on short term cost components that display significant volatility – eg. most recently, diesel fuel prices, which have risen dramatically in the first quarter of 2000.

The costing evaluations undertaken for this assignment by Trimac reflect comparison of total trucking expenditures, average freight rates and fuel consumption used to move goods using the described special haul vehicles noted in Sections 3 through 6 to similar factors if "legal configurations" had been instead used for the hauling.

Potash Hauling At Esterhazy

Following Table 10 summarizes, by hauling year, trucking costs estimated by the consultant for the Esterhazy potash haul. Over the 25 year history from 1974 through 1999, in terms of 1999 unit trucking cost levels, we note from this analysis that total savings to move the estimated 22.75 million tons of Potash using the special haul program amounted to $47.8 million, or roughly $2.10 per ton on a base cost averaging $14.12 per ton. Total fuel saved amounted to 22.8 million liters, over a base fuel use (if legal configurations had been used) of 132 million liters, or roughly a 17.3% saving in fuel and greenhouse gas emissions. For an average year, the savings amount to $1.9 million to move 910,000 tons in total trucking cost and the fuel savings amount to 915,000 liters on a base amount of 5.3 million liters of fuel.

Detailed component cost analysis print outs from the Trimac Model are provided in Appendix A for this haul.

Esterhazy to Northgate ND: 1974 to 1998

	The "Special Haul"							Comparison to "Legal" Haul			Savings Analysis Saved		
Year	Estimated Tons*	Type of Units Used	GVW (lbs)	Units Req.d	Total Cost ($)	Cost Per Ton ($)	Fuel Used (l)	Total Cost ($)	Cost Per Ton ($)	Fuel Used (l)	Cost ($)	Cost / Ton ($)	Fuel (l)
1974	750,000	9 Axle B	138,000	23	9,813,204	$13.08	3,850,814	11,454,246	$15.27	4,698,399	1,641,042	$2.19	847,585
1975	750,000	9 Axle B	138,000	23	9,813,204	$13.08	3,850,814	11,454,246	$15.27	4,698,399	1,641,042	$2.19	847,585
1976	750,000	9 Axle B	138,000	23	9,813,204	$13.08	3,850,814	11,454,246	$15.27	4,698,399	1,641,042	$2.19	847,585
1977	1,000,000	9 Axle B	138,000	31	13,084,272	$13.08	5,134,419	15,272,327	$15.27	6,264,532	2,188,055	$2.19	1,130,114
1978	1,000,000	9 Axle B	138,000	31	13,084,272	$13.08	5,134,419	15,272,327	$15.27	6,264,532	2,188,055	$2.19	1,130,114
1979	1,000,000	9 Axle B	138,000	31	13,084,272	$13.08	5,134,419	15,272,327	$15.27	6,264,532	2,188,055	$2.19	1,130,114
1980	1,000,000	9 Axle B	138,000	31	13,084,272	$13.08	5,134,419	15,272,327	$15.27	6,264,532	2,188,055	$2.19	1,130,114
1981	1,250,000	9 Axle B	138,000	38	16,355,341	$13.08	6,418,024	19,090,409	$15.27	7,830,666	2,735,068	$2.19	1,412,642
1982	1,250,000	9 Axle B	138,000	38	16,355,341	$13.08	6,418,024	19,090,409	$15.27	7,830,666	2,735,068	$2.19	1,412,642
1983	1,250,000	9 Axle B	138,000	38	16,355,341	$13.08	6,418,024	19,090,409	$15.27	7,830,666	2,735,068	$2.19	1,412,642
1984	1,250,000	9 Axle B	143,500	37	15,879,073	$12.70	6,231,131	19,090,409	$15.27	7,830,666	3,211,336	$2.57	1,599,535
1985	1,250,000	9 Axle B	143,500	37	15,879,073	$12.70	6,231,131	19,090,409	$15.27	7,830,666	3,211,336	$2.57	1,599,535
1986	1,250,000	9 Axle B	143,500	37	15,879,073	$12.70	6,231,131	19,090,409	$15.27	7,830,666	3,211,336	$2.57	1,599,535
1987	750,000	9 Axle B	143,500	22	9,527,313	$12.70	3,738,627	11,454,246	$15.27	4,698,399	1,926,933	$2.57	959,772
1988	750,000	9/10 Axle**	161,000	20	8,633,428	$11.51	3,518,785	9,079,819	$12.11	3,746,527	446,391	$0.60	227,742
1989	750,000	9/10 Axle**	161,000	20	8,633,428	$11.51	3,518,785	9,079,819	$12.11	3,746,527	446,391	$0.60	227,742
1990	750,000	9/10 Axle**	161,000	20	8,633,428	$11.51	3,518,785	9,079,819	$12.11	3,746,527	446,391	$0.60	227,742
1991	750,000	9/10 Axle**	161,000	20	8,633,428	$11.51	3,518,785	9,079,819	$12.11	3,746,527	446,391	$0.60	227,742
1992	750,000	9/10 Axle**	161,000	20	8,633,428	$11.51	3,518,785	9,079,819	$12.11	3,746,527	446,391	$0.60	227,742
1993	750,000	10/Axle	198,000	16	7,073,860	$9.43	2,968,858	9,079,819	$12.11	3,746,527	2,005,959	$2.67	777,669
1994	750,000	10/Axle	198,000	16	7,073,860	$9.43	2,968,858	9,079,819	$12.11	3,746,527	2,005,959	$2.67	777,669
1995	750,000	10/Axle	198,000	16	7,073,860	$9.43	2,968,858	9,079,819	$12.11	3,746,527	2,005,959	$2.67	777,669
1996	750,000	10/Axle	198,000	16	7,073,860	$9.43	2,968,858	9,079,819	$12.11	3,746,527	2,005,959	$2.67	777,669
1997	750,000	10/Axle	198,000	16	7,073,860	$9.43	2,968,858	9,079,819	$12.11	3,746,527	2,005,959	$2.67	777,669
1998	750,000	10/Axle	198,000	16	7,073,860	$9.43	2,968,858	9,079,819	$12.11	3,746,527	2,005,959	$2.67	777,669
Total	**22,750,000**				**273,617,555**	**$12.03**	**109,183,278**	**321,326,755**	**$14.12**	**132,047,514**	**47,709,200**	**$2.10**	**22,864,236**
Average	**910,000**				**10,944,702**	**$12.03**	**4,367,331**	**12,853,070**	**$14.12**	**5,281,901**	**1,908,368**	**$2.10**	**914,569**

Table 10: Potash Hauling Cost Savings From the Special Hauling Program

Similar detailed hauling evaluations were undertaken, using the Trimac Motor Carrier Analysis model, for the petroleum hauls (Esso and Federated Cooperatives), the Northern Uranium support hauls (NRT), the Saskatchewan Pool units, Federated Cooperatives overlength triple unit (Regina / Saskatoon route), the EEMV movements and the Forest Hauls.

These evaluations are provided in Appendix A.

Special Haul Case	Quantity	Units of Measure	Base Number of Tractors	Trucking $ Cost	Base Unit Cost $/Unit	Legal Trucking $ Cost	Annual Savings $	Per Unit Savings $/Unit	Percent Freight Saving
Potash Hauling (Average Year)	910,000	tons	25	$10,944,702	$12.03	$12,853,070	$1,908,368	$2.10	14.8%
Esso Trucking (R&G)	140,337	tons	5	$1,937,247	$13.80	$2,132,769	$195,522	$1.39	9.2%
Federated Fuel	534,250	tons	19.75	$7,959,758	$14.90	$9,484,182	$1,524,424	$2.85	16.1%
Uranium Hauls	2,675	trips	22	$7,825,873	$2,925.56	$9,763,859	$1,937,986	$724.48	19.8%
Federated Points North & Regina Saskatoon Triple	2,200	trips	1.25	$347,336	$157.88	$518,924	$171,588	$77.99	33.1%
Sask Pool CTI - 9 Axles	56,282	tonnes	6	$1,539,823	$27.36	$2,094,812	$554,989	$9.86	26.5%
EEMV Hauls	68,164	trips	130	$28,963,727	$424.91	$42,002,119	$13,038,392	$191.28	31.0%
Forestry Hauls	3,904,000	tonnes	243	$47,692,195	$12.22	$87,960,564	$40,268,369	$10.31	45.8%
Total	**5,617,908**		**452**	**$107,210,661**	**$19.08**	**$166,810,299**	**$59,599,638**	**$10.61**	**35.7%**

Table 11: Summary of Economic Savings (Trucking) of Special Programs

As shown in Table 11, the various special hauling programs, on an annual basis, have saved shippers an average total of $60 million, representing a saving of approximately 36% (from $167 million to $107 million).

Even with the potash haul discontinued, the savings amount to $58 million in direct truck transportation costs. The largest component of savings is represented by the Forestry Sector, followed by the EEMV hauls, the Uranium supply and petroleum hauls.

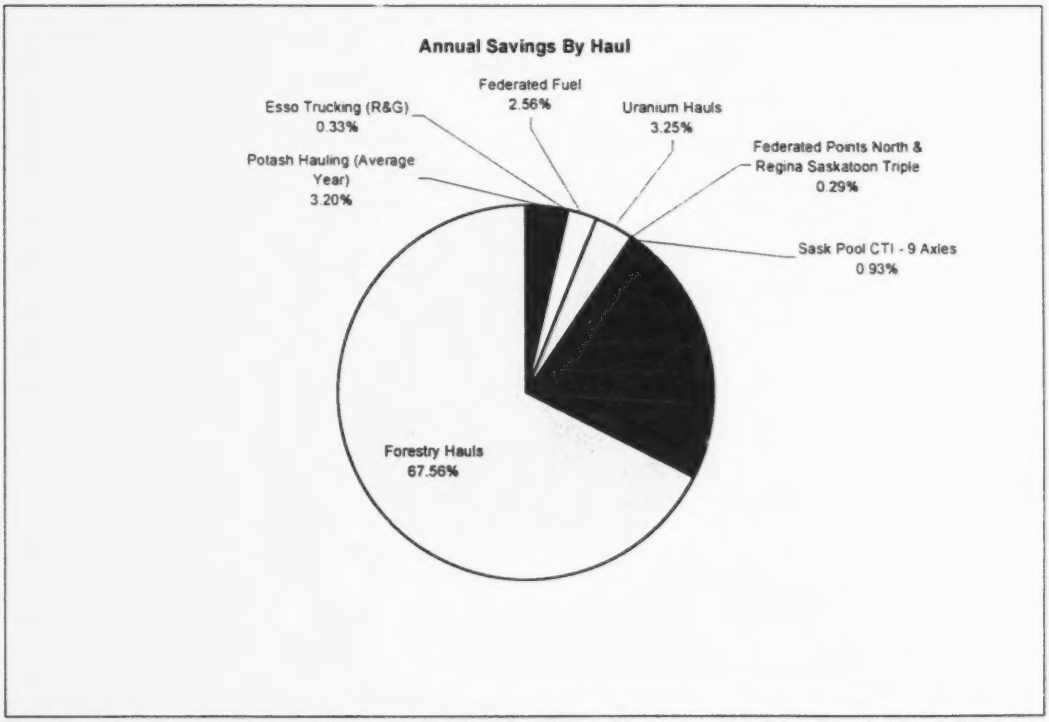


Figure 17: Proportion of Annual Dollar Savings Represented by Each Haul Sector

As illustrated in Figure 17, Forestry (68%) and EEMV activity (22%) collectively represent 90 percent of the annual $60 million savings in direct trucking costs estimated for the Special Hauling Programs. Uranium supply hauling, petroleum and potash hauling are approximately 3% each of the savings, with the Saskatchewan Wheat Pool's CTI grain hauling activity representing roughly 1% of the direct economic savings realized.

In Table 11, we further note that savings in costs to truck fuel to communities amount to between 9 and 16 percent of the hauling costs.

In addition to charting the hauls' economic cost, the consultant also tabulated the estimated fuel use in liters. These values are shown in Table 12.

Special Haul Case	Litres of Fuel	Fuel Saved Litres	Percent Fuel Saving
Potash Hauling (Average Year)	4,367,331	914,569	17.3%
Esso Trucking (R&G)	662,253	74,411	10.1%
Federated Fuel	2,722,599	550,336	16.8%
Uranium Hauls	2,566,194	700,771	21.5%
Federated Points North & Regina Saskatoon Triple	99,322	51,820	34.3%
Sask Pool CTI - 9 Axles	545,842	116,324	17.6%
EEMV Hauls	8,442,935	3,721,291	30.6%
Forestry Hauls	16,543,895	12,733,678	43.5%
Total	**35,950,371**	**18,863,200**	**34.4%**

Table 12: Fuel Savings from Special Program Trucking

Fuel savings (as well as reduced "greenhouse gas emissions") from the Saskatchewan trucking programs are seen to be substantial, in Table 12. They amount to 18.9 million liters of diesel fuel and a 34.4% reduction over the total quantity of fuel used if this hauling was undertaken using standard legal configurations.

7.2. Indirect Shipper Savings (Rail Rate Reductions)

As outlined previously in Section 3, the initial potash special haul was an intermodal truck to rail haul in response to commercial pricing concerns when dealing with Canadian railroads in the early 1970's. In 1986, the consultant was advised that the IMC management observed that CN and CP seemed to be "price matching" the intermodal Kleysen – BN haul.

In this instance, one can impute a "shipper benefit", on 3 million tons (annually) moved by rail in the form of a "discount" over what the shipper would have otherwise paid. In this instance, the $2.10 per ton saving in trucking costs would have been realized by IMC in the form of a $2.10 per ton direct saving on the 1.25 million tons trucked, plus an indirect saving of $2.10 per ton on the 3 million tons shipped by rail.

It would probably be a "stretch" to attribute a $2.10 per ton saving on all potash movements shipped by rail from Saskatchewan, particularly insofar as the Esterhazy haul was geographically best situated to connect to a (at that time) U.S. railroad at Northgate, N.D. Nevertheless, the consultant is aware that the nearby Rocanville

development entertained the idea of setting up a trucking system for potash in the late 1970's to mid 1980's. At that time, we were advised that the railway companies "matched the probable price of the trucking system". So it is possible that the direct savings to shippers might be as much as $2.10 per ton applied to the production of both Esterhazy and Rocanville.

Other commodities
While many of the special program hauls are not especially "rail susceptible" (eg. very little "store freight" / retail goods / foodstuffs that move in EEMV's is likely to be railed), and the northern regions of the province are not connected by rail links, it is possible that for some of the petroleum hauling, grain hauling and forestry movements – that there are quantities moving by rail and the presence of the Saskatchewan Special Hauling programs has caused the railways to "tune" their prices charged shippers, downward.

These benefits, while "real", would be difficult to exhaustively quantify as some intelligent "speculation" would be needed for each industrial sector that is benefiting in this way.

7.3. Enhanced Viability of User Industries

Given the significant cost of overland transportation and Saskatchewan's remoteness from tidewater shipping (see Figure 1 and accompanying discussion), it is not surprising that the user industries contacted underlined the importance, in this competitive world, of the Saskatchewan Trucking Programs as contributors that are instrumental in their efficient participation in global markets.

In order to review the "direct transportation savings", in the context of total annual sales (i.e. contribution to provincial RDP) in the various sectors – and possible employment impacts, the consultant undertook a fairly extensive Internet search for industry statistics for the various sectors that are participating in the Saskatchewan Trucking Programs. The results of this search are tabulated in following Table 13.

From Table 13, it can be readily seen that in terms of annual contribution to Real Domestic Product, that (excluding grain shipments), the sectors and facilities making use of the Special Trucking Programs represent annual sales of $7.1 Billion, or roughly 25% of the provincial RDP. Again, excluding agriculture, the direct employment of these sectors totaled some 32,000 jobs, or roughly 6.6% of the total provincial employment. When indirect jobs are factored in, the employment impact of the trucking program users totals 42,000 plus, or over 9% of employment in the province.

After adding in the grain sector, we see that annual sales total $11.2 Billion, or 39% of the provincial economy (RDP). Total direct and indirect jobs amount to 113,000, or roughly 23.5% of the Saskatchewan total employment. We note that the Saskatchewan Wheat Pool use of the trucking program amounts to a very small proportion of all grain shipped by truck from the province; hence the economic sectors that currently directly benefit from the special trucking programs are closer to 25% of

Saskatchewan Industries that Use Special Hauling Programs

Product Sector	Annual Sales	Year Basis	Direct Mill Employment	Total Direct Employment	Indirect Employment	Total Employment	Estimate Basis (Source)
Forestry	$700 Million	1998	2,000	6,000	7,600	13,600	http://www.kcdc.sk.ca/fore/forestry.asp
Uranium Mining	$580 Million [1]	1998	1,445	2,700	2,000	4,700	Cogema Resources (Internet) http://www.cri.ca/publications/uranium_in_sask_98/employm html
Potash (Esterhazy)	$430 Million	1998	550	550	**	550	Various Internet Sources Including: http://www.potashcorp.com
Potash (Rocanville)	$260 Million	1998	300	300	**	300	http://www.imcglobal.com/kaliloc.htm http://www.gov.sk.ca/newsrel/1999Feb/088.99020405.html
Warehouse & Retail	$5,100 Million [2]	1998	22,200	22,200		22,200	Economic Review 1999: Saskatchewan Bureau of Statistics
Total (Non Agriculture)	**$7,070 Million**	**1998**	**26,495**	**31,750**	**9,600**	**41,350**	**Sum of the Above**
% of Saskatchewan	**24.5%**		**5.5%**	**6.6%**		**8.6%**	**Compare to Bottom Line**
Grain for Agro Processing (Trucked)	$4,100 Million	1998	71,400	71,400	**	71,400	Economic Review 1999: Saskatchewan Bureau of Statistics
Total Above Sectors	**$11,170 Million**		**97,895**	**103,150**	**9,600**	**112,750**	**Total of Above**
% of Saskatchewan	**38.8%**		**20.4%**	**21.5%**		**23.5%**	**Compare to Bottom Line**
Province of Saskatchewan	**Total GDP of Province $28,800 Million**	**1998**	**479,000**	**479000**		**479,000**	**Economic Review 1999: Saskatchewan Bureau of Statist**

Table 13: Sales / Revenue Statistics and Employment For User Sectors (Annual)

Notes:
1 - Total Sales Estimated From 1999 Economic Review, Saskatchewan Bureau of Statistics
2 - Retail Trade $ volume based on total trade, less Motor Vehicles/Recreational Vehicle Dealers and Gasoline Stations
** - No estimate developed

RDP and 9% of provincial employment. Expansion of the program in the grain hauling sector, in event that the Saskatchewan Wheat Pool program is expanded or similar technology is adopted by other grain trading organizations, could significantly expand the size of user sectoral benefits, to perhaps as much as 39% of provincial RDP.

Comparing Tables 13 and 11, we can see the importance of the freight savings realized using the special trucking programs, in comparison to the total trucking cost otherwise as well as to the total sales revenues of the specific user sector or RDP of the province.

Economic Context of Special Trucking Program Savings

Sector	Trucking Savings	Percent of Trucking Freight	Percent of Annual Sales (or RDP)
Potash (Esterhazy)	$2 Million	14.80%	0.5%
Esso and Federated Fuel	$1.7 Million	14.80%	0.34%
Uranium Hauls	$2 Million	19.80%	0.33%
Grain Hauls	$0.5 Million	26.50%	0.0122%
EEMV Hauls	$13 Million	31%	0.2549%
Forestry Hauls	$40.3 Million	45.80%	5.8%
Total of Above	**$60 Million**	**35.70%**	**0.52%**
To Total Saskatchewan Economy	**	**	**0.21%**

Note: ** Not Determined

Table 14: Comparison of Trucking Program Savings to Total Transportation Costs (Otherwise) and to Annual Revenues / Contribution to the Provincial Economy

As seen in Table 14, the direct trucking savings represent approximately a 35.7% saving in trucking costs. This benefit represents approximately a one half percent of revenues realized by the impacted users. Note that this impact is differential in its effect. The

forestry sector of Northern Saskatchewan experiences a 45% reduction in trucking costs, a benefit that equals almost 6% of total sales revenues realized by the industry.

In comparison to the total Saskatchewan economy, the trucking savings represent roughly 2 tenths of one percent of total RDP. Nevertheless, the trucking savings, for each user sector, are between 15 and 45% of costs and the plants/sectors making use of the trucking programs are roughly 25% of the province's GDP.

For both the forestry and the uranium sectors, in Northern Saskatchewan, there are significant employment gains for first nations' residents.

7.4. Direct Community Employment (Trucking)

The Saskatchewan Special Trucking Programs have resulted in viable trucking operations being established with community and regional employment implications.

Hauling Case	Number of Power Units	Estimated Number of Drivers	Likely Communities of Residence
Potash Hauling	25	75	Esterhazy, Sask.
Esso and Federated Fuel Hauling	26	39	Regina and Saskatoon
Uranium Hauls	22	33	Saskatoon
Sask Pool Hauls	6	6	Varies
EEMV Hauls	130	195	Saskatoon / Regina
Forestry Hauls	243	630	Meadow Lake, Big River, Prince Albert, & Hudson Bay
COMPOSITE	452	978	As above

Table 15: Trucking Activity (Annual Equivalents) as Vehicles and Numbers of Drivers Employed

As outlined above in Table 15, the special hauling programs are seen to give rise to almost 1000 jobs for drivers based in Saskatchewan communities.

Additional support jobs are also created in connection with this trucking including:

- Dispatch and supervisory positions
- Mechanics positions
- Supply of consumables to the trucking industry (fuel, tires, lubes, etc.)
- Design and manufacture of highway equipment, especially specialized trailers for the special hauls.

7.5. Viability of Service and Support Industries

Supporting these trucking operations are various trailer design / manufacturing firms, repair shops and parts dealerships (trucking related) in Saskatchewan communities. In addition, fuel handlers provide some 36 million liters annually to this segment of trucking activity.

It is difficult to precisely attribute the existence of all the truck related service and support industries to the Special Trucking Programs, however the programs are acknowledged by various support industry personnel to be "contributors" to their strength and viability.

From our trucking analyses, we note that the current trucking programs purchase the following (estimated) value of supplies and services annually:

Item	Annual Expenditure For Special Trucking Programs (Average)
Replacement Power Units (Avg):	**$11,370,000**
Replacement Trailer Units (Avg):	**$5,216,500**
Fuel Purchases	**$18,173,300**
Repairs and Maintenance (Labour and Parts) – Not Including Tires	**$10,353,000**
Tires	**$4,273,000**
Total Supplies and Services	$49,385,800

Table 16: Purchases by Saskatchewan Trucking Program Operations

It would not be correct to attribute the existence of ALL trucking support business in the province of Saskatchewan to the special hauling programs. However, the annual expenditure of $49 Million for supplies and services, by the special hauling truck operations in the province, must also be recognized as a major stimulus to the supply industries charted in Table 16.

A review of the Industry Canada "Strategis" database on the Internet, identified the following industries that should derive significant benefit from the Special Hauling Programs – either as suppliers to the trucking industry, or for supplying materials handling equipment to mining and forestry enterprises, as tabulated in Table 17.

SIC CODE – Sector	Firm / Location	Employment Scope
3242 – Commercial Trailer Industry	Advance Engineered Products / Regina	500 Employees and Sales of $50 Million+
3242 - Commercial Trailer Industry	Doepker Industries Ltd. / Annaheim	175 Employees and Sales of $10 Million to $25 Million
3192 Manufacturing - Construction and Mining Machinery and Materials Handling Equipment Industry	Precision Industrial Ltd. / Prince Albert	80 Employees and Sales of $5 Million to $10 Million
3194 - Turbine and Mechanical Power Transmission Equipment Industry	Standard Machine Ltd. / Saskatoon	86 Employees and Sales of $10 Million to $25 Million

Table 17: Supply Firms "Stimulated" by the Saskatchewan Special Hauling Programs

SIC CODE – Sector	Firm / Location	Employment Scope
3199 Manufacturing - Other Machinery and Equipment Industries n.e.c.	Baker Hughes Ltd / Saskatoon	30 Employees and Sales of $5 Million to $10 Million
3049 Manufacturing - Other Stamped and Pressed Metal Products Industries	Bee – Line Welding / Prince Albert	N/A
3099 Manufacturing - Other Metal Fabricating Industries n.e.c.	Mifab Modular Equipment – North Battleford	N/A 20-49 Employees
3099 Manufacturing - Other Metal Fabricating Industries n.e.c.	Weldfab Ltd. / Saskatoon	N/A 10-19 Employees
3081 - Machine Shop Industry	A J Machine / Saskatoon	N/A 20-49 Employees
3081 - Machine Shop Industry	Apollo Machine / Saskatoon	$1 Million to $5 Million Sales; 15 Employees
3081 - Machine Shop Industry	Davis Machine / Saskatoon	$1 Million to $5 Million Sales; 20 Employees
3081 - Machine Shop Industry	Frank's Welding and Machine / Saskatoon	10 Employees; $100,000 to $250,000 Sales
3081 - Machine Shop Industry	Hart's Machine Shop / Regina	N/A; 10-19 Employees
3081 - Machine Shop Industry	J.C.'s Welding and Machine / Saskatoon	N/A
3081 - Machine Shop Industry	Nutana Machine Ltd / Saskatoon	40 Employees: $1 Million to $5 Million in Sales
3081 - Machine Shop Industry	Prairie Machine and Parts Ltd. / Saskatoon	75 Employees; $5 Million to $10 Million in Sales
3081 - Machine Shop Industry	Saskatoon Machine Works Ltd. / Saskatoon	N/A; 20-49 Employees
3081 - Machine Shop Industry	Venables Machine Works Ltd. / Saskatoon	60 Employees; $1 Million to $5 Million in Sales.
3081 - Machine Shop Industry	Yorkton Welding and Machine/ Yorkton	N/A Employees; Sales $200,000 to $500,000
SUB-TOTAL	**ALL LISTED FIRMS AND COMMUNITIES**	**(1171+ to 1276+) Employees; Sales of $90+ Million to $150+ Million**

Table 17: Supply Firms "Stimulated" by the Saskatchewan Special Hauling Programs

8. SUMMARY AND CONCLUSIONS

8.1 Truck User Benefits

Beginning with the Esterhazy potash haul, Saskatchewan Highways and Transportation has implemented pioneering development of economically viable trucking operations that "push the size / weight envelope" beyond that of normally prevalent trucking operations to achieve economic and energy savings for Saskatchewan industries.

Currently, the active programs in the province represent direct annual savings to shippers of $60 million in truck transportation and save close to 19 million liters per year of diesel fuel (reducing greenhouse gas emissions associated with these hauls by approximately 34%). Across those industries making use of the special programs, an estimated freight saving of approximately 35% of the freight cost that would be incurred (without the program) is being realized.

The industrial / product sectors participating as users of the program represent annual sales of approximately $7 Billion, not counting the agricultural grain sector (of a further $4 Billion), where the program is still in a "beginning, pilot stage" (only 6 trucks). The user sectors amount to approximately 41,000 jobs, or about 9% of the jobs in the provincial economy of Saskatchewan (excluding agriculture, which if included, would push the total to 111,000 jobs, or 24% of the provincial total).

Given Saskatchewan's landlocked geography and "central" location in North America, and hauling distances that number in "hundreds of miles", plus, such economical surface freight transportation initiatives are important for principal industries and movement of consumer goods to and from the province.

8.2 Additional Benefits

The benefits of the programs extend beyond the direct transportation (trucking) savings by participating industry sectors. It is known that the existence of these programs has served as a competitive force to reduce prices for some rail movements of Saskatchewan products, such as potash that is railed from Esterhazy and the potash shipped from Rocanville. This "price moderation" benefit is difficult to directly establish and quantify.

There are also employment benefits and "expenditure benefits" associated with the special hauling truck programs – which are experienced in various Saskatchewan communities. Driver employment by the industry, for the special hauling fleets, amounts to approximately 1000 jobs and the expenditures for supplies and services amount to approximately $50 million per year. There are additional management and supervisory and mechanic positions derived from the trucking activity, as well.

Supply firms that are stimulated by these programs include over 19 identifiable businesses, in various communities, that employ 1200+ employees and have $90 Million + in annual sales.

In summary, the programs can be seen to provide efficient freight transportation and business stimulus for many Saskatchewan Industries:

- Potash, Uranium, Forestry Industries
- Fuel , cement and other consumables delivery savings to rural Saskatchewan (eg. 10 to 20 percent of delivery cost for fuel)
- EEMV's support Retail Sales Activity
- Fabrication, engineering and other support industries (eg. advance, etc.)